# Pilot Project 1: Understanding and Attempting to Improve Decision-Making in the Start Network.

## Executive Summary

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### 1. Background

*[Several meetings took place between leaders in the START Network and the CRUISSE PI and CI, who also attended and observed START's linked FOREWARN meetings. The activities led to a call to academics interested to explore Decision-Making under uncertainty in the Start Network. The idea was to understand the problems of decision-making under uncertainty faced by START, who encounter a range of real-life and urgent decision problems also present in the Foreign Office and Department of Defence as well as elsewhere in Whitehall and in the insurance sector. START had been set up and funded in part due to an internationally-held concern that humanitarian decision-making has proved difficult and perhaps wasteful. START offered a rich data site to explore how information was gathered and used when responding to "alerts", particularly those based on probabilistic forecasting information. The idea was that the research methods adopted should increase understanding of decision processes under uncertainty in general and also that the project report should seek to be useful – i.e. to make and discuss suggestions as to how decision-making might be improved, further monitored and further researched.*

*Tobias Pforr responded to the open call for proposals by setting out a project to evaluate the procedures used by the Start Network in their decision-making processes and, if possible, to explore whether procedural improvements based on a more thoroughly articulated and implemented conception of the challenges posed by uncertainty could help the Start Network to better fulfill its promise of delivering rapid financial assistance in case of humanitarian crisis and thus to reduce human suffering around the world.* The report that follows was prepared by Dr Pforr.]

### 2. The Project

The project started on the 1st of October, 2017. It began with regular visits to the START office in London where I began by undertaking unstructured interviews with every staff member at START who played an active role in the alert process. I subsequently proceeded to analyze existing data and previous alerts. I examined every previous alert at a high level and listened to audio recordings of the entire alert process for about 25 of the most relevant alerts. I also provided a number of training sessions for select START team members, including two Delphi-inspired simulation exercises, a more general training on decision-making theory, as well as a training module on learning and evaluation.

In total, the project involved seven visits to the START office, over 30 interviews with practitioners at the START network, and presentations as well as attendance at five events related to START network activities. The project also benefited from repeated interaction with and feedback from senior academics within the CRUISSE network, including the CRUISSE-designated mentor Prof. David Tuckett, Prof. Lenny Smith, and Prof. Mark Fenton Creevy. The project culminated in a 12,000 word report which was used as a basis to compile a number of smaller internal training documents at START. The training note on navigating uncertainty is of particular note, since it is now being used to train all current and future decision-makers in the alert process.

## 3. Main points

*a. High emotional cost of uncertainty limiting organizational potential*

Decisions within the START network suffer from high degrees of uncertainty. However, individuals need to be able to find conviction in order to act under conditions of uncertainty. The project found that some coping-mechanisms employed by individuals and implicitly accepted within the organization were not conducive to learning from previous experiences and interactions. A number of issues were identified: First, the usage and creation of unsubstantiated data. Second, lack of attribution and ownership for decision. Third, lack of evaluation as protection mechanism. Fourth, attempt to avoid decisions by relying on outside expertise. Fifth, disproportionate focus on review without implementation.

*b. Strategies to improve emotional coping mechanisms with uncertainty*

In order to improve the coping mechanisms employed, one key point was to begin to train START members with the following rough guidelines: First, distinguish risk from uncertainty (in the sense these terms are used by economists[1]). Second, do not necessarily think of outcomes purely in terms of right or wrong. Third, does the data adequately reflect uncertainties involved? Fourth, uncertainty is not an excuse not to be informed. Fifth, learning is key to dealing with uncertainty. Sixth, not all decision making is rule-based. Seventh, differentiate good and bad biases.

Feedback from the practitioners at START suggests that this guidance is very useful in order for START to improve on its mission to relief suffering around the world.

## 4. Outcomes

This project has positive outcomes on a number of dimensions. The project highlights that academic research can play a positive role in helping practitioners deal with real world problems related to the nature of uncertainty. The impact of this project can be seen in three principal ways: First, the project led to a number of training modules and documents which are being used by START (one example of this work is attached in the appendix). Second, the experience of having undertaken this pilot project allowed me to win a position at another large NERC-funded research project (FATHUM). Third, the project led to a number of new research initiatives and research outputs which are currently under development. It is of particular note that all of these new collaborations are of a genuinely inter-disciplinary nature. I am currently working on a joint-paper with Dr. Erica Thompson, a statistician at the LSE, which offers an examination of the problems of uncertainty faced in the humanitarian sector from a social science and natural science perspective. The work undertaken at START highlights that the puzzle of uncertainty is composed of very different kinds of pieces. Some pieces relate to binary 'yes or no' questions to which there exists a correct answer, i.e. does a 14-day forecast of tropical storms in Mozambique have any skill? Some pieces, however, cannot be reduced to such a logic, i.e. would money be better spend to help flood victims in Uganda or draught victims in Sudan? The paper with Thompson takes up these issues and provides an argument that humanitarian assistance requires both the help from natural and social scientists. In addition, I am working on a co-authored paper that distinguishes different ways of early response to natural disasters. This collaboration includes Dr. Elisabeth Stephens, a hydrologist from the University of Reading, Dr. Sara DeWitt, an anthropologist from the University of Oxford, and Olivia Taylor, a geographer from the University of Sussex. This paper highlights the fact that however difficult

[1] Note. An interesting and valuable controversy at first arose when START colleagues created a note making this distinction (see the end of this report) and it found its way to the attention of physical scientists providing START with relevant consultancy input. On examination the issue was one not of substance but terminology. The term uncertainty in physical and statistical science (and also often psychology) has different meanings to the meaning of the term in economics - one instance of the significant pitfalls in communication and understanding endemic in this area.

the problem of uncertainty is on its own, it also needs to be understood within the institutional context in which organizations and individuals act. Institutional structures enable organizations and individuals to deal with uncertainty in particular ways, while disabling others. In this joint-paper, we compare how the intuitional contexts affects the kind of relief effort undertaken, using two prominent relief agencies as case studies (the START network and the Red Cross's Disaster Response Emergency Relief Fund). Last, I am working on a single-authored journal article which examines transformations in the humanitarians sector from a political economy perspective. As the humanitarian sector attempts to innovate using new tools and technologies, the humanitarians sector is recalibrating and transforming some of its core principles. This paper examines these principles in light of how they enable particular kinds of humanitarian interventions. Each of these three research output is a direct result of having been awarded the CRUISSE pilot project.

## 5. Further work and scaling up

The CRUISSE project highlights the positive impact of bringing together a group of academics from a truly interdisciplinary background. The work begun in this project opens a particularly rich seam of potential research into organizational decision-making processes under radical uncertainty. The insights gathered from the project are also being extended to aid and understand various Red Cross initiatives. In particular, I am working on a project with a leading climatologist at the Red Cross Red Crescent Climate Centre to think about value for money considerations in humanitarian work. This project will be used to inform a number of discussions which will take place during the upcoming UN Climate Chance Summit 2019. This project has also sparked interest in my profile as a researcher to join further interdisciplinary project. I was recently asked to join a grant submission as a named Post-doc in the meteorology Department at the University of Reading on a project which looks at how climate change will affect economic damages relating to storms in the UK over the next 50 years. In other words, this CRUISSE project has already been instrumental in building my capacity to make real-world relevant research contributions and to develop my research career.

SEPTEMBER 2018

# NAVIGATING UNCERTAINTY

AN APPROACH FOR START FUND DECISION-MAKERS

Start Fund decision-makers face varying levels of uncertainty when making allocation and project selection decisions, particularly when making decisions around anticipation alerts or in the early stages of a crisis. How we navigate uncertainty as a network and as individuals is critical given the Start Network's collective responsibility in managing the Start Fund.

This document introduces some ways to think about decision making under uncertainty. This is not an in-depth document. Further resources to learn more about decision making under uncertainty are listed at the end of this document.

## 1 DISTINGUISH RISK FROM UNCERTAINTY

Even though the terms 'risk' and 'uncertainty' are often used interchangeably, it is helpful to distinguish the two:

### RISK

**refers to a situation where the outcomes are known and can be understood in probabilistic fashion. In the Start Fund, examples which have probabilistic outcomes can include storm path predictions and flood predictions. For example, 'X state has an 80% chance of seeing tropical storm force winds in the next X hours'.**

### UNCERTAINTY

**refers to situations where the outcomes cannot be known probabilistically.[1] Most decisions about the future are uncertain. For example, when anticipating potential violence or conflict ahead of an election, Start Fund members may identify likely scenarios, but quantifying how likely it is that each scenario will come true is not possible.**

**Recommendation**

***Start Fund decision-makers should distinguish risk from uncertainty in Start Fund allocation meetings and these differences should be reflected in the decision making process. Just because there is uncertainty, it does not mean we can not make a decision. We can make decisions while recognising that there are elements of uncertainty.***

## 2 THERE ISN'T A 'RIGHT' OR 'WRONG' ANSWER WHEN FACING UNCERTAINTY

**Recommendation**

***Start Fund decision-makers should recognise that when facing uncertainty, there isn't necessarily a 'right' or 'wrong' outcome. Decision-makers should be comfortable embracing the learning that will occur when dealing with uncertaintyand should review past decisions for learning.***

It is important to remember that unlike under conditions of risk where there are answers to be found (i.e. identifying the month or week with historically the highest level of rainfall), under conditions of uncertainty, this will not be the case. Some decisions will be less good or less bad given certain conditions. This also means that there is no objective answer and no uniquely 'correct' way of proceeding. Under conditions of uncertainty, mistakes must happen. For example, should a decision-maker prioritise low costs per beneficiary when selecting a project? Or should projects be selected which seek to address many needs of a smaller number of vulnerable beneficiaries (higher cost per beneficiary)? Decision-makers don't know exactly how a situation will unfold. Given that decision-makers don't know exactly how a situation will unfold, there isn't necessarily a right or wrong answer here. Under conditions of uncertainty, right or wrong answers only become known in retrospect. It is therefore important to review past decisions in order to learn if future decisions should be adapted in particular ways.

1 *Probabilistic outcome: A situation where there are multiple possible known outcomes, each of which has a known varying degree of possibility of actually occurring.*