CASE STUDY: DATA SOVEREIGNTY IN COMMUNITY-BASED ENVIRONMENTAL MONITORING:
TOWARD EQUITABLE ENVIRONMENTAL DATA GOVERNANCE

Steve Desilets

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1. Introduction

In the 1960s, Texaco discovered oil reserves in indigenous communities in Ecuador, and subsequently dumped billions of gallons of toxic oil waste into the rivers on which the Siona, Kichwa, Cofán, Secoya, and Waorani Indigenous communities depended (Vice 2020). Texaco's careless actions caused increased rates of birth defects and cancer among these communities and the destruction of the ecosystem on which these communities depended for food and water for centuries. To this day, the inability for Indigenous communities to control the governance of data (like exploratory oil search data) collected from their people and lands continues to cause threats to Indigenous communities - particularly from companies interested in extracting their natural resources (Vice 2022). In "Data Sovereignty in Community-Based Environmental Monitoring: Toward Equitable Environmental Data Governance," Reyes-García et al. discuss the importance of indigenous groups controlling the governance of data collected from their communities (Reyes-García et al. 2022). In this paper, we review the data, data governance, relevant legislation, and data governance solutions discussed in this progressive case study that advances ideas that could protect Indigenous communities via Indigenous Data Sovereignty (IDS).

2. The Data

In Reyes-Garcia et al.'s paper, the authors focus on any data from or about Indigenous communities and lands, including genomics, health, ethnobiology, and environmental monitoring data. The quality of such data and the related analyses likely vary quite a bit. For example, one NPR report discussed how the US federal government didn't distribute COVID-19 relief funds across tribes in an equitable way because the US government had very limited data that it could leverage to determine how best to distribute the funds (Maher 2021). However, the authors also cite some data collection and analysis efforts that likely would fall at the high end of the quality spectrum, such as an environmental ice-monitoring application developed by the Arctic Elder Society and a forest monitoring application designed by the Prey Lang Network. Though these specific examples of data-driven applications are fascinating, to be clear, this paper is more broadly focused on how *all* data collected from Indigenous communities should be governed.

3. Relevance To Data Governance

While there are four Pillars of Data Governance (data stewardship, data quality, master data management, and data governance use cases), the focus of this case study primarily fits into the Data Stewardship Pillar, which implements policies related to data management, legal compliance, and ethics (Eye

on Tech 2020). Specifically, data ethics are the primary motivation for this case study's advocacy for data sovereignty for Indigenous communities. As the authors explain, Indigenous communities should be able to own their own data because the best interests of these communities often are not aligned with the interests of the scientists who want to collect their data. Though ethics may be the primary impetus for revising governance of Indigenous communities' data, governments could support this movement by passing legislation and organizations could support this movement by revising their data management practices as well.

4. Relevant Legislation

The authors of this paper mention that the landscape of IDS legislation may vary across the globe, but don't mention any specific laws most likely because such legislation does not exist in many countries. For example, even some of the most progressive pieces of data-related legislation like the EU General Data Protection Legislation, the California Consumer Privacy Act of 2018, and The Common Rule, would do nothing to grant Indigenous communities control over data collected from their environments (Pike 2020). Given this absence of legislation, the authors advocate for the advancement of IDS via adoption of data governance frameworks like those developed by the Samiid Riikkasearvi, the Asia Indigenous Peoples Pact, and the Open Development Initiative.

5. Data Governance Solution

My key takeaway from this case study is that some organizations are doing incredible work to advance Indigenous Data Sovereignty. The authors suggest that organizations should follow guidelines like the CARE Principles for Indigenous data management and stewardship proposed by the Global Indigenous Data Alliance or the principles of the First Nations Information Governance Centre. If all organizations followed such principles, then Indigenous groups would likely have sufficient control over collection, storage, analysis, use, and reuse of their data. However, as the authors point out, the fact that these ethical frameworks are not legally binding creates an opening for organizations to misuse and inappropriately exploit data collected from Indigenous communities. For this reason, while organizations should incorporate these ethical frameworks into their data governance, governments should also pass binding legislation that protects the data sovereignty of Indigenous communities to help break the cycle of outside organizations harming Indigenous communities with their own data.

<div align="center">References</div>

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