

## Title

Sampling lessons learned from surveying by one Self-governing Indigenous Government (SGIG), a pilot project by the Nisga'a Nation

## Abstract

This research examines the varied approaches to survey design and methods for one SGIG, Nisga'a Lisims Government (NLG), and focuses on adaptations to more traditional, mainstream sampling methods. It is a case study that highlights the hybrid sampling method used to collect data. The hybrid sampling method features the combined use of convenience and random sampling to collect information for Nisga'a citizens living in urban locales (off Nisga'a Lands) and a census of those living in Nisga'a communities. Response rates for the aggregate urban locales were 18%, with 56% for the aggregate communities. Overall, 30% of the population responded to the Nisga'a Nation Household Survey (NNHS) questionnaire developed by NLG in conjunction with a Nisga'a working group. Further, this case study documents both positive opportunities and other unintended consequences arising from the researchers' efforts to collect information from as many members of the Nisga'a Nation as possible. In years forward, NLG aspires that these sampling methods will be useful for longitudinal data collection, and possibly, as a 'template' for other self-governing Indigenous Nations.

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## Key words

Sampling, hybrid, response rate, self-governing Indigenous Government (SGIG), Nisga'a Lisims Government (NLG), Modern Treaty

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## 1. Introduction

In the fall and spring of 2018/2019, the Nisga'a Nation, as represented by the Nisga'a Lisims Government (NLG), administered the Nisga'a Nation Household Survey (NNHS) as a pilot survey (Bouchard et al., 2020). The survey is a practical way of monitoring social and economic changes affecting the various subgroups of the Nation's population, such as Elders, children, urban dwellers, and women. As such, it provides a means of establishing baseline criteria and data to support NLG's understanding of, and responses to, the impact of the Nisga'a Final Agreement<sup>1</sup> on the living conditions and quality of life of Nisga'a citizens.

NLG acts as the administration and traditional lawmaking authority, representing the Nisga'a Nation of northwestern British Columbia, concurrent with provincial and federal jurisdiction. NLG has a duty and mandate to provide for the development and implementation of active government programs and services to sustain and improve the quality of life for all Nisga'a citizens. As part of enhancing the quality of life for Nisga'a people, NLG invested in primary data collection methods to access relevant and reliable baseline data. NLG stresses the importance that having control over data collection processes remains the purview of First Nations to own, control, access, and possess data similarly established by the OCAP principles of the First Nations Information Governance Centre (FNIGC)<sup>2</sup>.

The NNHS was based on a rigorous sampling approach which included census data collected from residents of the Nisga'a Villages, as well as information collected from a randomly sampled group of Nisga'a individuals living off Nisga'a lands.<sup>3</sup>

This work explores our unique sampling approach, describes our methods for data collection, and documents the challenges and opportunities that this hybrid approach offers through the use of random sampling to select individuals living off Nisga'a lands, as well as a census of individuals living in Nisga'a Villages. We summarize our observations on our attempt to use unique and varied approaches to collecting information on social and economic changes for Indigenous populations living in rural and remote areas, as well as a novel method to sample from more populated urban centers, both done while creating a unique database to NLG to capture information representative of the Nisga'a citizens living in British Columbia.

Our aim was to maximize the potential that employing mixed methods research and diverse sampling strategies enhancing results to obtain reliable estimates, or a degree of "generalizability", to speak for the wider Nisga'a population. This was to address difficulties in obtaining a representative sample as using only one sampling method had proven extremely difficult (Collins, Onwuegbuzie and Jiao, 2007; Sharp et al., 2012:34).

Sharp et al. note (2012:34-35) that "if a study cannot use random assignment or selection, then multistage, mixed methods sampling designs may be used to select participants or sites that are more likely representative of the population studied and that are best suited to answer the research questions".

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<sup>1</sup> The Nisga'a Final Agreement is a comprehensive land claims agreement and British Columbia's first modern treaty.

<sup>2</sup> <https://fnigc.ca/ocap-training/>

<sup>3</sup> The survey was administered in four Nisga'a Villages (Gitlaxt'aamiks, Gingolx, Gitwinksihlkw, and Laxgalts'ap) and three urban communities in the Province of British Columbia (Terrace, Prince Rupert, and Vancouver).

Our work adds to the literature exploring the opportunities and constraints of employing mixed techniques for multisite case studies with learnings from detailing the possible extent that these studies, when fulsomely described, add to information about multisite case studies (Onwuegbuzie and Leech, 2007). The mixed techniques and tactics we employed describe the opportunities and constraints of using convenience and random sampling strategies with a census.

Our unique approach to sampling to collect information, quantitatively and qualitatively, add valuable insight in describing experiences of Nisga'a well-being.<sup>4</sup> Ultimately, our response rate was enhanced by the unique way our sampling strategy was employed, while our mixed techniques and survey design captured information that benefits NLG decision-making. Further, NLG learnings gained through this process allow NLG to improve upon its performance measurement practices, thus boosting the potential for the government's management to achieve improved social well-being outcomes for citizens across the health, education, and housing sectors, as examples.<sup>5</sup>

We conclude by asserting that there is a need for flexibility in sampling from a frame, as well as the importance of remaining rigorous in the application of one's sampling methods to allow for high quality inferences to a wider population. We remark on the need for local support, including working with Indigenous stakeholders and communities by hiring community surveyors that understand local context and culture. We further emphasize that the data collected can be enhanced by participatory involvement from community members, from the start of the project through data sharing and project completion, with interlocutors reflecting on their data. In the end, the Nation's government strives for, and is persistent in, its legitimacy to carry out high-standard work, with the aim that modern treaties and self-governing Indigenous governments will be acknowledged for such efforts rather than discounted or perceived illegitimate.<sup>6</sup>

## 2. Context and background on the NNHS

This research could not have taken place without the full support of the Nisga'a Nation Executive,<sup>7</sup> a unique structure of Indigenous self-government represented by the Nisga'a Lisims Government. The Executive is made up of elected members from four Nisga'a Villages Governments (Gitlaxt'aamik, Gitwinksihlkw, Laxgalts'ap, and Gingolx), as well as from three urban local communities with elected

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<sup>4</sup> Combining methodologies (logics of inquiry) with methods that collect quantitative and qualitative data have been accepted in social and behavioural sciences for some time (Lieber, 2009; Tashakkori & Teddlie, 1998; Teddlie & Tashakkori, 2009).

<sup>5</sup> To varying degrees and by different strategies, NLG has incorporated performance management philosophy and certain practices into its operations to enhance government's efficiencies and performance (Bryson, 2004; Holzer, 2004; Holzer et al., 2019).

<sup>6</sup> Our work follows Walter and Andersen's (2013:21) perspective that conventional and dominant institutions' use of statistical methods can overlook and "shortchange" Indigenous communities given that Indigenous epistemology (ways of knowing) are downplayed. While NLG used specific and somewhat conventional methods to collect information (a questionnaire) – there were efforts to listen to different ways in which the results of the survey effort could be brought to bear on the decisions NLG makes. The work was effectively supported because generating knowledge from within a self-governing context appreciates and accepts the value of Nisga'a citizens to lead the process by inclusion in the early design of the questionnaire, through analysis, to determining how results can generate needed change.

<sup>7</sup> <https://www.nisgaanation.ca/executive>

representation from Terrace, Prince Rupert, and Vancouver.<sup>8</sup> The Executive approved a budget to carry out this survey throughout the Province of British Columbia.<sup>9</sup>

The Nisga'a Nation is located on the northwest coast of British Columbia (BC), in the Nass River Valley, northwest of Terrace (see Figure 1). As stated on the Nisga'a Lisims Government (NLG) website, "the Nisga'a people have lived in the Nass River Valley since before recorded time,"<sup>10</sup> guided by Ayuukhl Nisga'a.<sup>11</sup> On May 11th, 2000, the Nisga'a Final Agreement came into effect, and Canada and British Columbia formally recognized Nisga'a ownership of 2000 km<sup>2</sup> of Nisga'a lands, as well as the resources on or under those lands.<sup>12</sup> The Nisga'a Nation is comprised of both national and local governments: NLG is responsible for governance of the Nisga'a Nation as a whole, and each of the four Nisga'a Villages — Gitlaxt'aamiks, Gingolx, Gitwinksihlkw, and Laxgalts'ap — acts as its own government, exercising functions related to the village and its residents.<sup>13</sup>

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<sup>8</sup> <https://www.nisgaanation.ca/constitution>

<sup>9</sup> See, Executive Update - September 24th, 2018.

<sup>10</sup> See, <https://www.nisgaanation.ca/about-10>

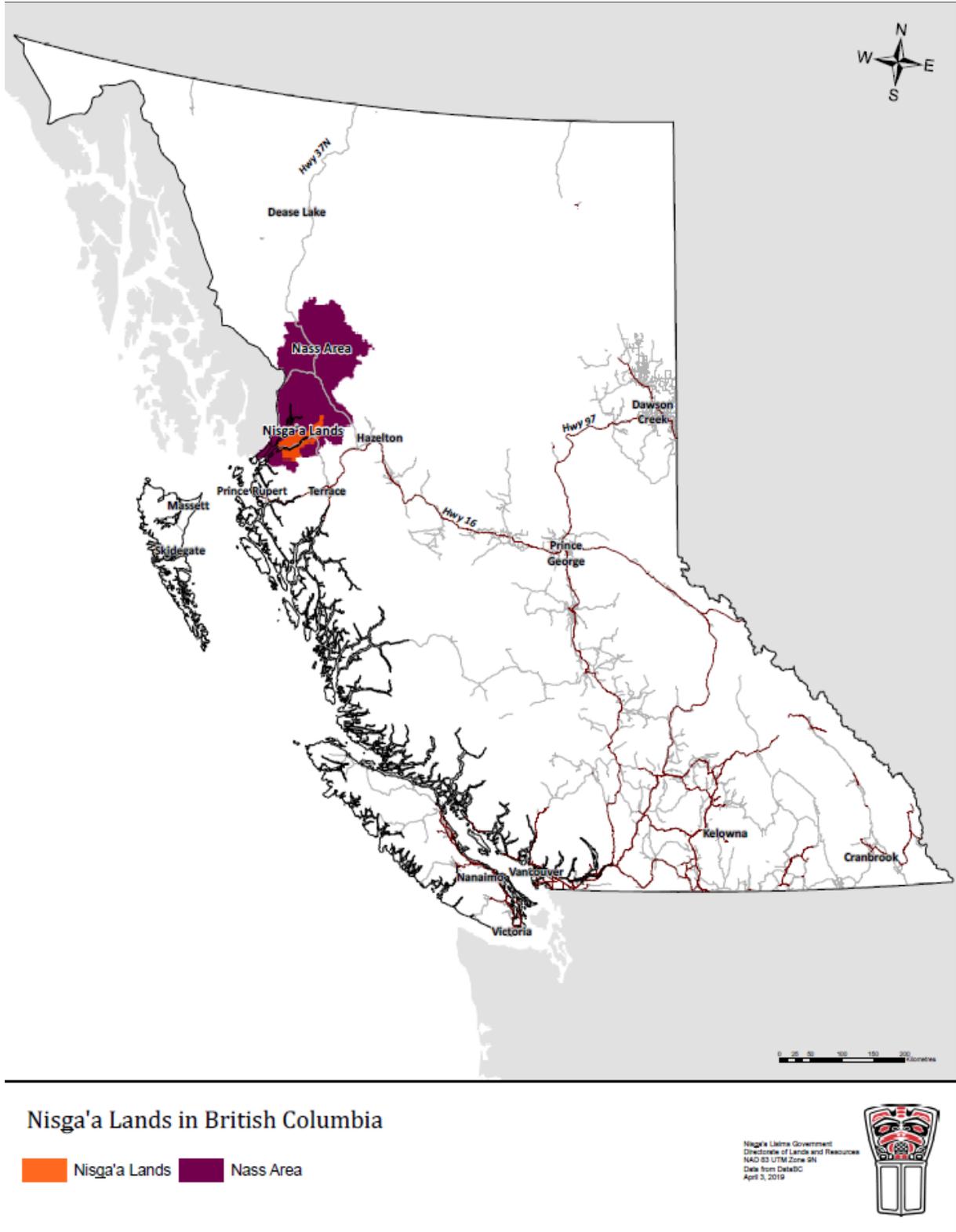
<sup>11</sup> The Nisga'a Nation has a strong sense of culture and heritage, which is reflected in NLG's system of governance and investment priorities. As stated on NLG's website, "NLG is committed to protecting and promoting Nisga'a culture in all aspects of society", and does so with the guidance of Ayuukhl Nisga'a, "an ancient and sophisticated code of laws, customs, and conduct."

<sup>12</sup> The Nisga'a Final Agreement was signed in 1998 and came into effect in 2000. It is BC's first Modern Treaty. See, <https://www.nisgaanation.ca/about-accomplishments-and-benefits-nisgaa-treaty>.

<sup>13</sup> See, <https://www.nisgaanation.ca/about-3>.

Figure 1

Map of the Nisga'a Lands in British Columbia



Currently, NLG's administration is considering whether to administer the survey in five years' time (2022/2023), pending feedback and approval from NLG's Executive. In the initial development and design of the survey, an initiative of NLG's 'Quality of Life' (QoL) department,<sup>14</sup> administering a survey between the Canadian Census Program collection periods was considered.<sup>15</sup> The NNHS survey would allow NLG to collect longitudinal data that could generate quality estimates and inferences about the Nisga'a populations in the four Nisga'a Villages in the Nass Valley, as well as other major urban areas in British Columbia where Nisga'a reside.

Although time consuming to administer, NLG created a questionnaire that went beyond numbers to the stories that make numbers more meaningful and useful for planning, thereby increasing NLG's ability to more effectively respond as a government. Multiple choice, benchmarking, rating scale, and Likert-like scale types of questions were used for quantitative data collection. Additionally, space was provided for open-ended descriptive text. Qualitative responses allowed for elaboration beyond the structured questions found on the questionnaire, allowing for a more fulsome picture of Nisga'a quality of life and useful results for NLG's management of resources.<sup>16</sup>

Several authors have recognized the importance of mixed-method studies (Creswell, 2007; Morgan, 1998; Reichardt and Rallis, 1994; Teddlie & Tashakkori, 2009). However, Onwuegbuzie & Collins (2007, p. 281) remind us that "sampling decisions typically are more complicated in mixed methods research", as well as undocumented, partly because researchers do not spend a lot of time communicating their sampling approach. Rather, researchers generally prefer to focus on the impact that mixing quantitative and qualitative methods as this can enrich knowledge generation (Curtis et al., 2000; Johnson & Onwuegbuzie, 2004).

Following insights from Onwuegbuzie and Collins (2007, p. 306), we address the importance of communicating our sampling methods and approach to learn and improve upon future sampling strategies with Nisga'a populations, in order to sharpen our skills as researchers and public servants working for self-government. Essentially, NLG's survey methodology featured the combined use of purposive judgmental convenience,<sup>17</sup> stratified random<sup>18</sup>, and chain referral/snowball sampling<sup>19</sup> to

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<sup>14</sup> See <https://www.nisgaanation.ca/history-and-timeline>; <https://www.nisgaanation.ca/about-1>

<sup>15</sup> See <https://www12.statcan.gc.ca/census-recensement/index-eng.cfm>

<sup>16</sup> Qualitative responses were hand-recorded by interviewers. These recordings often reflected personalized stories of family history, the day-to-day circumstances and challenges people faced, reflections about the impacts of residential schools, and other personalized stories. The commonalities of stories were noted and spoken of in general terms during subsequent participatory engagements to gain further feedback from community members regarding ways to improve the quality of life for citizens.

<sup>17</sup> Convenience sampling is a type of nonprobability sampling method in which people are sampled simply because they are 'convenient' sources of data for researchers (Lavrakas, 2008).

<sup>18</sup> Stratified random sampling is a type of probability sampling method for drawing samples from a population where the population has been divided into subgroups (units), with individuals randomly selected from the subgroups. Stratifying target populations is a common practice in survey sampling. Such sampling techniques are frequently used in government and social science surveys (Frey, 2018).

<sup>19</sup> Chain-referral sampling, also known as chain sampling, referral sampling, or snowball sampling, is a type of non-probability sampling method where existing research participants recruit additional participants from among their acquaintances (Raina, 2015).

collect information from Nisga'a citizens living in urban locales (off Nisga'a Lands), as well as a census of those living in Nisga'a Villages.

### 3. Rationale for the work

#### i. Well-being and Indigenous Governments

An understanding of Indigenous well-being is central to the ability to measure well-being. In Canada, Indigenous well-being has been described as holistic, multidimensional, and based on community-centered experiences (Denis, et al., 2017; Sasakamoose, et al., 2017). As well, there are complex intersections and interrelations of social, economic, cultural, environmental, and political factors that impact the health of Indigenous peoples across Canada (O'Sullivan & McHardy, 2004; Wilk et al., 2018)

Developing a more transparent and consistent way of measuring well-being, relevant to the cultural realities of Modern Treaty beneficiaries, such as the Nisga'a Nation, is an important step for demonstrating whether, and under what conditions, such agreements can effectively reduce socio-economic disparities and improve the quality of life of Indigenous communities. To do so, it is necessary to develop suitable methods for systematically evaluating and reporting on the ways in which modern treaties reduce socio-economic disparities and enhance the lives of Indigenous Peoples across Canada. NLG's executive and leadership recognized that, in order to understand and describe well-being in the context of Indigenous peoples living in northwest British Columbia, securing appropriate baseline data would be a necessary starting point.

Indeed, like any government, to effectively prioritize and target their efforts Modern Treaty Nations must listen to its citizens, ask appropriate questions, and gain feedback from its citizens to improve upon existing programs and services (Henzey et al., 1999).<sup>20</sup> Gaining feedback from program or service end users is critical for improved services and is equally connected to improving policy (Fotrousi, et al., 2017; Seyff, et al., 2015). Undeniably, citizens served by governments can impact government functioning by the manner in which citizen action can collectively contribute to and inform policy and eventually government decisions and actions (Dean, 2010; Pierre & Peters, 2005; Rhodes, 2007).<sup>21</sup> The NNHS was determined to include the voices of Nisga'a people in directing government policy as these voices could contribute to solving problems faced by the Nisga'a Nation.<sup>22</sup>

#### ii. NLG's Quality of Life Department – Support for the NNHS

NLG launched the Quality of Life Strategy (QLS) in January of 2013 to enhance the living conditions of Nisga'a citizens.<sup>23</sup> The strategy consists of a framework outlining a holistic understanding of sustainability and quality of life in the development and implementation of effective government programs and

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<sup>20</sup> Modern Treaty Nations can be described as "Self-governing Indigenous Governments" or "Self-Governments", because of their function as a localized government in Canada, given their formation as a group and network in negotiations with CIRNAC through the collaborative fiscal policy process with the Federal Government of Canada. Indigenous Nations and Indigenous people in Canada may not describe or connect with these terms given these terms may be imposed upon them in describing the self-governing agreements Treaty Nations have with the Crown.

<sup>21</sup> Peters and Pierre (2008, pp. 240 - 241) characterize the changing nature of research on governance as actors and groups across societies capable of establishing associations and networks to leverage their interests.

<sup>22</sup> In this article, "members" and "citizens" are used interchangeably to describe those Nisga'a that identify, connect with, or belong to the Nisga'a Nation.

<sup>23</sup> <https://www.nisgaanation.ca/about-1>

services. The QLS also provides a case study of a culturally adapted method for acquiring baseline data that may assist NLG as well as provincial and federal governments, in evaluating impacts of the Nisga'a Final Agreement.

A Nisga'a working group<sup>24</sup> was convened in March of 2013 to develop the Quality of Life Framework (QoLF) using a participatory research process. Subsequently, a questionnaire was developed in anticipation of administering the Nisga'a Nation Household Survey (NNHS). The questionnaire linked the QoLF themes to measurable indicators, as well as culturally adapted and contextually relevant questions, and was thirteen pages in length. This current work provides a case study regarding the administration of the household survey by the QoL department in an attempt to garner feedback from Nisga'a citizens. NLG considers this work a pilot, potentially administering the survey following a five-to-ten-year span, or more frequently, to collect similar and comparable data so that it can be compared and linked to other data sources such as the Canadian Census.<sup>25</sup>

The NLG routinely uses information and analyses from non-Nisga'a statistical agencies such as Statistics Canada (StatCan) and First Nations Data Centre (FNDC), as well as reports on surveys such as the National Household Survey (NHS), First Nations Regional Health Survey (RHS), and Labour Force Survey (LFS) to inform its operations as government. However, in order to produce high quality statistical data relevant to the Nisga'a, the NLG found it necessary to undertake its own household survey to supplement the information collected by outside sources. Information collected from the NNHS is currently being used to complement, expand upon, and address critical gaps in the understanding of statistical information gathered by other data sources.<sup>26</sup>

## 4. Sampling and fieldwork

### i. Prefeasibility considerations and constraints

Several considerations needed to be addressed prior to data collection. These included understanding the population to be sampled, methods to collect data, and the ways to address potential issues of non-response. As the fieldwork developed, an iterative process emerged to test a few different approaches to surveying. Examples of these approaches include starting with conducting focus groups with Elders, targeting those willing and enthusiastic to participate, and employing initial chain referral/snowball and random sampling methods. Our research methods included simultaneous, separate data collection streams using both census and stratified random sampling methods in villages and urban locations, respectively.

NLG's administrators recognized that while many Nisga'a live in various smaller communities across the Province of British Columbia, most live in the Nass Valley within the four Nisga'a Villages (Gingolx,

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<sup>24</sup> <https://www.nisgaanation.ca/history-and-timeline>

<sup>25</sup> Through an established partnership agreement in 2021, NLG on behalf of the Nisga'a Nation is currently responsible for administering the regional health survey (RHS), as a pilot partnership between the First Nations Health Authority (FNHA) and the Nation. This is a further example of collecting data by a Self-governing Indigenous government, utilizing and analyzing data from other sources.

<sup>26</sup> An example of this particular strategy is the Cheyenne River Voices Research Project conducted by the Cheyenne River Sioux Tribe (South Dakota) that focused on filling a gap in the United States Federal census. See, <https://www.minneapolisfed.org/article/2016/building-stronger-native-communities-through-data>, Sourced, 2021.05.15.

Laxgalts'ap, Gitwinksihlkw, and Gitlaxt'aamiks) and three urban areas (Prince Rupert, Terrace, and Vancouver). Given certain budget constraints it was felt prudent to take a two-pronged sampling approach by conducting a census on Nisga'a Lands and taking stratified random samples from three urban areas. At the same time, a significant investment was made to the survey knowing that the resultant data would be useful in generating information that could be used to inform funding applications through Provincial and Federal programming.

NLG also considered the time constraints and human resource draw that it would take to sample from the majority of members living in the both the rural and urban areas, but considered this a learning opportunity and an employment generating opening for those seeking work.<sup>27</sup> It was considered critical to hire locally from those interested in supporting the interview process, thus creating work and building internal capacity for NLG.

NLG recognized that it would be difficult to communicate the importance of this work to those who may mistrust the survey process, including mistrust regarding the way the information would be used by the government.<sup>28</sup> Further, NLG recognized that it would be difficult to find Nisga'a living in precarious situations (e.g., on the streets, in unrecognized sublets, or as some members moved between families and homes to survive). Based on these considerations and the need to garner trust for this work among Nisga'a citizens, key supporters and staff worked to arrange meetings with Elders and Elders' focus groups among the villages and urban centers. Finding "champions" for this work among the wider Nisga'a family, particularly Elders, helped broker the mistrust for some members who were undecided or skeptical about the importance of this work. To this end, NLG piloted the questionnaire with several Elders from the various locations, as well as a few Elders' groups, in settings that were conducive to openly communicating questions about the survey process, including information on using results from the survey to benefit government decisions and community members. When this part of the process was completed, the questionnaire was refined, and a decision was made to start interviewing Elders and Elders' groups in one urban center, Prince Rupert<sup>29</sup>. NLG followed a style similar to conducting chain-referral sampling, also known as the "snowball technique" (Statistics Canada, 2010, p. 115).<sup>30</sup> One advantage of this method was in locating hidden respondents that would otherwise not be visible or desire to participate (Salganik & Heckathorn, 2004).

Given that the Elders who had completed the survey endorsed the prospect of other members' participation, employment of the snowball technique was determined to be optimal. Simultaneously, NLG researchers devised a method to randomly select members from Prince Rupert in order to move from the snowball method to a random sampling method, selecting members over 18 years of age from the three urban areas (Urban Locals). NLG's citizenship list for citizens living in urban areas was generated and validated against the local Nisga'a society's list, comparing names and addresses. The NLG list was used

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<sup>27</sup> Throughout the course of this survey, there were thirty people employed to address unemployment on and off Nisga'a Lands. In 2016, Statistics Canada estimates the unemployment rate for those aged 15 to 24 at 48% (Stat Canada, 2016, p. 20). In 2020, NLG estimated the unemployment rate for those on and off Nisga'a Lands at 18.2% (NLG, 2020, p. 16).

<sup>28</sup> NLG's administrators are very aware of the literature critical of dominant quantitative methodologies and the limits of such research (Walter & Andersen, 2013)

<sup>29</sup> Elders involved in the instrument design process were very much collaborators to this research; NLG administrators were grateful for their support.

<sup>30</sup> This undertaking took place in April-May of 2018 with a select number of individuals and households (< 10).

to create a sampling frame that was updated and relevant (Statistics Canada, 2010, pp. 22 - 29).<sup>31</sup> This method proved effective on a few different fronts, however it was primarily used to update the sampling frame and create internal improvements between NLG and the Urban Locals information sharing processes as they relate to the status of members, particularly members as they moved residences.

## ii. Key stakeholders and advocates: Elder's feedback

The feedback received from senior officials and Elders was paramount in finalizing the questionnaire. To this end, the questionnaire was piloted with several Nisga'a Elders and Elders' groups in Terrace and Vancouver prior to administration. This process was beneficial for refining specific wording for questions that were difficult to understand or for questions that were more specific to either Terrace or Vancouver when compared to Prince Rupert or the Nisga'a Villages. Again, this provided NLG with a unique opportunity to articulate the extent and purpose of the research and adjust specific questions to reflect differences in context between locations. Further, a method of testing and validating the questionnaire specific to Terrace and Vancouver's context and location. We met with Elders during their regular Elder group meetings, holding focus groups with catered food. During the meetings the team explained the survey approach being used, as well as elements of the questionnaire. This "dry run" with the questionnaire was conducted in Prince Rupert, Terrace, Vancouver and Gitlaxt'aamiks. Elders and Elders' groups recommended minor changes to the questionnaire based on specifics to the geographic locations, which were later incorporated. Following focus group discussion, Elders participated in one-on-one interviews using the newly revised questionnaire. For Elders that had scheduling constraints, follow-up interviews were conducted with all Elders participating in the focus groups eventually being interviewed. Simultaneously, a frame was developed to randomly sample individuals in urban areas. NLG staff, assisted by staff members from the Nisga'a societies in Terrace and Vancouver, the Gitlaxdax Nisga'a Terrace Society and Vancouver Txamiks Society, respectively, went door to door to interview randomly selected individuals. Key staff members in these locations assisted to help find those randomly selected Nisga'a citizens, while experienced NLG staff engaged with Elders' focus groups to administer the survey.<sup>32</sup> In this way, there was a seamless transition from snowballing to stratified random sampling among the wider Nisga'a populations in urban areas. NLG employed methods similar to Cohen and Arieli (2011), recognizing the difficulty and sensitivity in sampling from populations that are difficult to reach. As such, NLG strategically employed a snowballing methodology to target and reach essential members of this population, whose voice was important to hear.

## iii. Fieldwork, site-selection, and participation

NLG trained and hired local investigators from the four Nisga'a Villages and three urban centers for a total of 28 hires. Canvassers were trained by the QoL manager, who is experienced in research design and implementation. The canvassers were given field experience practice through mock interviews and practical skills training in research methodologies prior to going door to door to conduct interviews (Hillier et al., 2014). In each community canvassers were supported, and supported one another, through morning meetings used to establish routes and sub-sections to canvass within the communities. Following the morning meeting, the canvassers went out in pairs. There were also daily late afternoon and evening

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<sup>31</sup> The Nisga'a Society in Prince Rupert is the Gitmaxmak'ay Nisga'a Society (<https://gitmaxmakay.ca/>). The Society supported NLG by offering in-kind administrative staff, food, and a venue for Elders to meet and for interviews to take place.

<sup>32</sup> NLG is indebted to the administration for support received by Urban Local staff.

debriefing sessions to ensure that canvassers were supported and provided a safe space to voice any concerns encountered during field research.

During the daily check-ins, conducted while canvassers were in the field, site maps of the Nisga'a Villages on Nisga'a Lands were used to refine the local lists in the Villages. These maps assisted in refining the main lists of those individuals and households that had completed the survey. Further refinement occurred when staff, as they went door to door, documented how many households refused to take the survey, were not home, or had completed the survey. Other strategies to increase the sample size included: (1) publicly announcing the importance of the survey prior to visits; (2) initiating appointments prior to visits; and (3) providing incentives for completed questionnaires. NLG also carried out frequent follow-ups when scheduled appointments were made or when homes were vacant and no one came to the door (Hiller et al., 2014). Given time and financial cost, as well as time and burden placed on respondents, efforts were made to minimize the number of times canvassers followed up with those who were not home or missed a scheduled appointment, with a minimum of three, and a maximum of four, times (Statistics Canada, 2010:37-54).<sup>33</sup> There were no efforts to follow-up with those that refused to take the survey.

On Nisga'a Lands, researchers regularly announced that enumerators were in the area, employing broadband radio broadcasts to inform the more remote Villages, Gingolx particularly. These broadcasts were meant to provide information to members who might be interested in learning more about the project and might be willing to participate. NLG also offered incentives to participate in the survey, including a draw for one of four iPads, gift cards from several grocery outlets nearby, as well as other smaller gifts. The inclusion and advertisement of the incentives were communicated more frequently three-quarters of the way through undertaking the census among the Nisga'a Villages when interviewers were seeing diminishing returns from their door-to-door efforts. Incentives were communicated as honorarium, signaling a respect for those to complete the survey as staff placed an emphasis on connecting, appreciating, and respecting those participating, particularly Elders.

Otterloo et al. (2011) and Perez et al. (2011) note that techniques encouraging participation include the use of incentives, both monetary and non-monetary. We recognized similarly to Noel et al. (2019) and Griffin et al. (2011) that incentives can improve the significance of response rates, as well as reduce follow-up efforts within the sample. This was seen as respondents reached out to us more frequently after advertisements were done on the broadband radio or through other social media outlets. A slight uptick in response rate was noted after we communicated incentives and prizes as survey work neared its conclusion. Use of advertising incentives prompted additional respondents to complete the work, particularly those living on Nisga'a Lands. The incentives did not seem to provide as much of a draw for people to complete the survey in the urban centers, with some respondents indicating prior work commitments and family obligations as being more important priorities than completing the survey. Thus, in the urban locations, work pressures and time and family obligations made it difficult for people to participate in the survey, this being noted as part of the non-response biases encountered (see, Section 6).

Increased response rates are generally considered to be a benefit, however potential side-effects warrant caution and a brief discussion. Otterloo et al.'s (2011) study points out that the type of incentive can cause

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<sup>33</sup> Hildner et al. (2015) note that survey teams should attempt at least three visits before abandoning hope of an interview, although other investigators and research methods point to times when more tries are warranted and may be prudent.

statistically significant differences, i.e., bias, between respondents and non-respondents. In their study they used gift cards and found “card incentives – along with other study design factors – can increase response rates, and as such investigators should be aware that...gift cards can...affect who responds to the survey” (Otterloo et al., 2011, p. 6). Smyth et al. (2010) also found that incentives may affect results. They found that incentives reduced unit non-response and had little impact on a wide range of socio-demographic, behavioural, and attitudinal questions. On the other hand, households that received incentives tended to report lower consumption and income levels, perhaps in an effort to appear more in need of support in an effort to receive a future reward. With these considerations in mind, NLG utilized incentives in a strategic way, such as advertising the incentives more assertively and later on in the work to encourage participation, with the desired effect that overall participation increased.

## 5. Considerations for sampling strategy

### i. Canvasser training

At the outset, research training was offered to a core group working under the direction of one of NLG’s managers, who had professional training and experience in large-scale research projects. The goal was to train two staff members who would subsequently take on training in each of the communities, sharing the work with Elders’ groups as they piloted the questionnaire with a core selected few in each Village or Urban Local. As one of the driving forces behind this work was to hire local staff from each of the seven communities, NLG proposed a train-the-trainer model whereby core support staff would travel to each community with the lead researcher, sharing best practices, and offering training on survey methodology and interviewing.

### ii. Census and stratified random sampling methods

Simultaneous, separate data collection streams using both census and stratified random sampling methods were used. Interviewers went to homes multiple times, purposefully targeting households with incentives complementing the overall targeted approach of door-to-door interviewing (see also, Clark et al., 1997). While NLG’s approach differed between the urban and rural settings – a more tactical approach that involved convenience sampling, followed by snowball sampling, ending with purposeful sampling targeting subdivisions was employed, with some variation across contexts. In the urban context, NLG used a convenience sampling followed by random selection of participants within households (stratified random sample across urban settings), followed by snowball sampling and ending with convenience sampling, using a more assertive approach that included advertising incentives offered via social media. Among the Nisga’a Villages, a census approach was employed, however interviewing began with a convenience sampling approach among selected Elders followed by purposefully sampling across grids on a map and throughout subdivisions, with teams collecting information in each area. In this instance, snowball and convenience sampling became part of the methodology used as advertising the incentives on broadband allowed participants to reach out to interviewers. As such, a staging area for interviewing was identified at each of the four Nisga’a Villages often an unoccupied office or conference room, with one staff member remaining back to field queries from and conduct interviews with those coming to the staging area. Evening meetings with all staff were an opportunity to identify those who had come to Village government offices for interviews, using maps to identify their household in the village. Surveying the following day would omit homes already surveyed. The following tables (Tables 1-3) provide information on the sampling approach taken by NLG, as well as the number of respondents from the community-wide participation in the survey.

**Table 1***Household Information for Nisga'a Villages with Response Rates<sup>34</sup>*

| Nisga'a Villages / Communities | No. of HH <sup>1</sup> in the Village / Community <sup>35</sup> | Total No. of HH <sup>1</sup> Surveyed | % coverage of HH <sup>1</sup> |
|--------------------------------|---|---------------------------------------|-------------------------------|
| Gitlaxt'aamiks (New Aiyansh)   | 264   | 125                                   | 47.3%                         |
| Gitwinksihlkw                  | 42  | 35                                    | 83.3%                         |
| Laxgalts'ap                    | 135   | 93                                    | 68.9%                         |
| Gingolx                        | 125   | 67                                    | 53.6%                         |

<sup>1</sup> Households**Source:** Nisga'a Lisims government - Quality of Life Department**Table 2***Census Data for Nisga'a Villages with Response Rates*

| Nisga'a Villages / Communities | Population list: Individuals 18+ (n) | Full survey respondents 18+ (n) | % of coverage for individuals 18+ |
|--------------------------------|--------------------------------------|---------------------------------|-----------------------------------|
| Gitlaxt'aamiks (New Aiyansh)   | 578                                  | 304                             | 52.6%                             |
| Gitwinksihlkw                  | 147                                  | 101                             | 68.7%                             |
| Laxgalts'ap                    | 394                                  | 216                             | 54.8%                             |
| Gingolx                        | 301                                  | 149                             | 49.5%                             |

**Source:** Nisga'a Lisims government - Quality of Life Department

<sup>34</sup> Administrators felt there were likely more households in the villages. Still, during research, NLG confirmed with a certain degree of confidence by working with Chief Administrative Officers of the Villages that these numbers were close approximations. Other published work on this research indicated there were 321 households interviewed – but in the refinement of our analysis, NLG noted a duplicate questionnaire in Laxgalts'ap, thereby reducing this number from 94 HH to 93 HH. We have therefore updated this information to correct for that error (compare, Bouchard, 2020).

<sup>35</sup> NLG utilized an understanding of the occupancy of households through the support of Village-level administrators and staff to determining residence. In this respect, this work underestimates the overall household composition and occupancy of Nisga'a members living in the Nass Valley, given mobility and a certain difficulty in determining permanent residence for members. The land title registry along with BC housing assessment, as well as NLG's housing database, suggests occupancy rates > 566. Updated estimates for 2020 suggest separate residential units and single occupancy on Nisga'a Lands are closer to 660.

**Table 3***Random Sample N for Nisga'a Urban Locals with Response Rates*

| Nisga'a Urban Locales / Communities (off Nisga'a Lands) | Population list: Individuals 18+ (n) | Individuals 18+ responding to full survey (n) | % of coverage for individuals 18+ | Random selection sample size for individuals 18+ <sup>2</sup> | Individuals 18+ surveyed from the random list (n) | % coverage for 18+ from random list |
|---|--------------------------------------|---|-----------------------------------|---|---|-------------------------------------|
| Prince Rupert   | 1,115                                | 203   | 18.2%                             | 89  | 25  | 28.1%                               |
| Terrace   | 917                                  | 166   | 18.1%                             | 88  | 39  | 44.3%                               |
| Vancouver   | 840                                  | 144   | 17.1%                             | 87  | 15  | 17.2%                               |

<sup>1</sup> Individuals from sample of convenience and random sample

<sup>2</sup> 95% CL; 10%MoE; 50%RD

**Source:** Nisga'a Lisims government - Quality of Life Department

In some respects, NLG's strategic approach to sampling was a conscious effort to be inclusive and respectful of Elders, as it was an attempt to start an inclusive process in an effort to improve acceptance of this work among the wider Nisga'a population. In this context, NLG's interviewers and administration felt that purposive sampling was appropriate. At the same time, adding convenience sampling, as well as snowball sampling to increase the response rate was appropriate given NLG did not want to reject anyone who wanted to participate. NLG made concerted efforts to keep track of those who responded through random selection, or those who responded via convenience or snowball sampling methods. Further, there were multiple attempts to go door-to-door in all the areas interviewers surveyed.

Among the Nisga'a Villages/Communities in the Nass Valley and on Nisga'a Lands non-response rates were categorized based on refusal, no answer, and recently moved (see Table 4). Census data collection captured 320 households, with canvassers going to houses multiples times. Canvassers went to homes in Gitlaxt'aamiks at least two times when there was no answer. In Laxgalts'ap and Gingolx staff made at least three attempts, while in Gitwinkshilkw, as the community was smaller, four attempts were made to reach potential participants.

**Table 4***Non-response summary results based on refusal, no answer and recently moved (Nisga'a Villages)*

|                        | New Aiyansh / Gitlaxt'aamiks <sup>1</sup> | Gitwinkshilkw <sup>2</sup> | Laxgalts'ap <sup>3</sup> | Gingolx <sup>3</sup> | OVERALL TOTALS |
|------------------------|---|----------------------------|--------------------------|----------------------|----------------|
| Sample (HH)            | 264                                       | 42                         | 135                      | 125                  | 566            |
| Actual Interviews (HH) | 125                                       | 35                         | 93                       | 67                   | 320            |

|                              |       |       |       |       |       |
|------------------------------|-------|-------|-------|-------|-------|
| Refusal (n)                  | 50    | 3     | 16    | 15    | 84    |
| Refusal (% of sample)        | 18.9% | 7.1%  | 11.9% | 12.0% | 14.8% |
| No answer <sup>4</sup> (n)   | 70    | 3     | 15    | 35    | 123   |
| No answer (% of sample)      | 26.5% | 7.1%  | 11.1% | 28.0% | 21.7% |
| Recently moved (n)           | 19    | 1     | 10    | 8     | 38    |
| Recently moved (% of sample) | 7.2%  | 2.4%  | 7.4%  | 6.4%  | 6.7%  |
| TOTALS (n)                   | 139   | 7     | 41    | 58    | 245   |
| TOTAL (% of sample)          | 52.7% | 16.7% | 30.4% | 46.4% | 43.3% |

<sup>1</sup> 2 attempts made at HHs with no answer

<sup>2</sup> 4 attempts made at HHs with no answer

<sup>3</sup> 3 attempts made at HHs with no answer

<sup>4</sup> Some of the individuals included in Non-contact (no answer) had missed appointments

Among the Urban Locals surveyed in British Columbia non-responses were also categorized based on refusal, no answer, and recently moved (see Table 5). In this instance, canvassers captured data for 236 households, often going to houses multiples times. Canvassers went to homes in Prince Rupert and Terrace at least four times when there was no answer. In Vancouver, the distance and the associated costs to travel throughout Metro Vancouver limited the number of visits to Nisga'a households when there was no answer, although there was a concerted effort to visits homes at least twice.

**Table 5**

*Non-response summary results based on refusal, no answer and recently moved (Urban Locals)*

|                                | Prince Rupert <sup>1,3</sup> | Terrace <sup>1</sup> | Metro Vancouver <sup>2,3,4</sup> | OVERALL TOTALS |
|--------------------------------|------------------------------|----------------------|----------------------------------|----------------|
| <b>Sample (HH<sup>5</sup>)</b> | 494                          | 501                  | 494                              | 1489           |
| <b>Actual Interviews (HH)</b>  | 86                           | 81                   | 69                               | 236            |
| <b>Refusal (HH)</b>            | 20                           | 15                   | 22                               | 57             |
| <b>Refusal (% of sample)</b>   | 4.0%                         | 3.0%                 | 4.5%                             | 3.8%           |
| <b>No answer (HH)</b>          | 34                           | 18                   | 78                               | 130            |
| <b>No answer (% of sample)</b> | 6.9%                         | 3.6%                 | 15.8%                            | 8.7%           |
| <b>Recently moved (HH)</b>     | 16                           | 26                   | 12                               | 54             |

|                                      |       |       |       |       |
|--------------------------------------|-------|-------|-------|-------|
| <b>Recently moved (% of sample)</b>  | 3.2%  | 5.2%  | 2.4%  | 3.6%  |
| <b>NON-RESPONSE TOTALS (HH)</b>      | 70    | 59    | 112   | 241   |
| <b>NON-RESPONSE TOTALS (% of HH)</b> | 14.2% | 11.8% | 22.7% | 16.2% |

<sup>1</sup> 4 attempts made at HHs with no answer

<sup>2</sup> 1 to 2 attempts made at HHs with no answer

<sup>3</sup> Unsure of total number of HH (494 estimate calculated as 3 members/HH divided by total population)

<sup>4</sup> 2 HH with 2 people in each HH for Vancouver HH surveys, 1 from Victoria and 1 from the Southern Gulf Islands

### iii. Frequency of door-to-door interviews

Considering that time and budget were an issue, in the secondary and proposed future study, NLG will adhere to a more consistent approach regarding the frequency and number of times attempts were made to reach participants when going door-to-door. As Gitlaxt'aamiks is the larger of the communities, only two attempts were made to reach participants. However, while there was a noticeable percentage of refusals and movement in and out of the community, given the support from the Village Government leaders and their staff, there was adequate coverage for reaching out to participants.<sup>36</sup> In both Gitlaxt'aamiks and Gingolx it was felt that if more attempts were made to go door-to-door the response rates would have incrementally increased. The “no answer” responses in Gingolx were noticeably higher. However, this community is the farthest and most remote Village in the Nass Valley, with canvassers noting that people were often not home as they were traveling for work, to town for supplies, or on the river and ocean fishing.

## 6. Considerations

NLG considers the questions asked, their convention, axiology and ontology and considerations for how distinct values are placed on this kind of research, while this paper focuses on sampling considerations (Bouchard et al., 2020). In some respects, this work may not go far enough to unburden administrators from very conventional approaches to data collection – methods which tend to view “deficit” versus appreciating epistemological concerns such as “who can and who cannot be knowledgeable, and the hierarchy of how knowledges are valued” (Walter and Andersen, 2013:94). There were concerted efforts to validate responses by holding meetings in Villages and at Urban Locals with the aim of events to gain feedback on the results, as well as provide the data to Chief Executives and Administrators of the Villages and Urban Locals. Ultimately, NLG holds the data with respect for what it can say as well as its limitations and what the data could be used for. In many instances, this data is used to support funding initiatives for the wider Nisga'a Nation as well as provide benchmarks or check-in points in understanding how government's performance realizes mandates of Executive order, including how NLG examines aspects of well-being through specific initiatives (Bouchard et al., 2020; Bryson, 2004; Ho, 2007).<sup>37</sup>

<sup>36</sup> The Village Chief Administrator Officers of the Villages were extremely supportive of this work, helping find local staff to hire and helping NLG administrators advertise the work in the Villages.

<sup>37</sup> NLG makes active attempts to incorporate citizen's involvement in making decisions– including examining how citizens may impact wider decision-making and the performance of government. Examples include holding special assemblies which are a commitment to maintaining open, honest, and effective channels of communication. Special Assemblies are held every two years, where government members report on all areas of governance and public programs (both in person and in a printed report). Every Nisga'a citizen has the right to attend and speak at Special Assemblies and the proceedings are webcast to ensure all Nisga'a citizens are able to participate.

**i. Stratifying the sample to community level**

NLG’s work focuses on describing certain aspects of Indigenous well-being in the context of a Modern Treaty and is an example of employing a mixed quantitative-qualitative method to measure well-being. However, analysis of the survey results exposed biases in the survey work completed. As NLG aims to share in the lessons learned from sampling and surveying, openly speaking to consideration for furthering this work in future years and improving upon methods unique to an Indigenous government, its cultural facets and context, biases in the work are presented. The results captured highlight instances where households from Nisga’a Villages or Urban Locals prioritized specific narratives distinct to the context of a particular Village or Urban location. Certain participants and interviewers were able to delve deeply into responses, uniquely capturing concerns or successful realities of community life. These unique responses could be considered bias as participants and interviewers narrowed in on specific issues and concerns, while an important objective of the research, highlighting major issues or matters arising in specific communities in order to raise issues and matters among senior officials and different government levels within NLG.

Ultimately, NLG’s investigators stress the importance of placing primary data collection strategies and methods with those who best understand the context, culture, and relevant questions to ask of the participants. There was immense value in hiring local researchers as interviewers, as they understood the relevance of the questions asked at a more personal level, including how to probe into specific issues that required further conversation. Effectively, interviewers had a more intimate understanding of the concerns and context of the circumstances and place (Walter and Andersen, 2013). As such, NLG’s data collection methods may be considered relevant and inclusive of the people under investigation in gathering accurate and localized data by placing knowledge generation and research in the hands of the people and communities (Bouchard et al., 2020; Cottrell, 2010; Moreton-Robinson & Walter, 2010).

NLG’s administrators felt there were adequate responses distributed to the demographic realities of the population, with survey efforts reflecting success in reaching out and capturing information from different age groups and among the sexes (see Table 6).

**Table 6**

*Age/Sex Breakdown by Age Categories (Urban Locals, Villages and Totals)*

|                           | 18-29 | 30-39 | 40-49 | 50-59 | 60-69 | 70+ |
|---------------------------|-------|-------|-------|-------|-------|-----|
| <b>Males (Urban)</b>      | 70    | 39    | 37    | 43    | 41    | 10  |
| <b>Females (Urban)</b>    | 69    | 63    | 46    | 42    | 34    | 19  |
| <b>Urban (Total)</b>      | 139   | 102   | 83    | 85    | 75    | 29  |
| <b>Males (Villages)</b>   | 80    | 63    | 69    | 80    | 81    | 47  |
| <b>Females (Villages)</b> | 69    | 54    | 68    | 54    | 65    | 40  |
| <b>Villages (Total)</b>   | 149   | 117   | 137   | 134   | 146   | 87  |

|                      |     |     |     |     |     |     |
|----------------------|-----|-----|-----|-----|-----|-----|
| <b>OVERALL TOTAL</b> | 288 | 219 | 220 | 219 | 221 | 116 |
|----------------------|-----|-----|-----|-----|-----|-----|

ii. **Sampling bias**

Regardless of such efforts, sampling bias was seen in several areas of the research. Responses across the Nisga’a Village areas and urban centers, for age and sex, did not always reflect population demographics. Table 7 highlights areas where it was difficult to reach people. As such, certain sampling biases remained. However, these sampling biases did not detract from generating compelling insights and approximations about the wider Nisga’a population, nor in determining inferences that could be made about each of the Nisga’a Villages or Urban Locals.

Females 30-39 in the Villages were overrepresented. This was expected given the high number of women working for local government (NLG or the Villages, School District 92, Nisga’a Valley Health, Wilp Wilxo’oskwhl Nisga’a Institute), as well as the active role many from this age cohort take in raising families and participating in Nisga’a culture and community. Men from this age cohort were underrepresented, equally expected, as men can be away working elsewhere in the Nass Valley. The higher representation of males (50-59) among the Villages was notable and considered as a sign that men often return home to the Villages in later stages of life to participate in their cultural practices and duties. Researchers, given the realities of fieldwork, had planned to observe trends in participation by age and sex, thus are able to provide insight into the differential response rates seen.

**Table 7**

*Age/Sex Breakdown by Urban Locals/Villages – Non response bias (over/under representation)*

|                       |        | 18-29  |       | 30-39  |       | 40-49  |       | 50-59  |       | 60-69  |       | 70+    |       |
|-----------------------|--------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|
|                       |        | Female | Male  |
| <b>Villages</b>       | Pop    | 46.4%  | 53.6% | 39.1%  | 60.9% | 45.2%  | 54.8% | 45.5%  | 54.5% | 46.0%  | 54.0% | 46.4%  | 53.6% |
|                       | Sample | 46.3%  | 53.7% | 46.2%  | 53.8% | 49.6%  | 50.4% | 40.3%  | 59.7% | 44.5%  | 55.5% | 46.0%  | 54.0% |
| <b>Urban Centers</b>  | Pop    | 49.2%  | 50.8% | 52.7%  | 47.3% | 47.8%  | 52.2% | 53.0%  | 47.0% | 56.9%  | 43.1% | 58.5%  | 41.5% |
|                       | Sample | 49.6%  | 50.4% | 61.8%  | 38.2% | 55.4%  | 44.6% | 49.4%  | 50.6% | 45.3%  | 54.7% | 65.5%  | 34.5% |
| <b>Total (by age)</b> | Pop    | 48.4%  | 51.6% | 48.7%  | 51.3% | 47.0%  | 53.0% | 50.5%  | 49.5% | 52.0%  | 48.0% | 52.6%  | 47.4% |
|                       | Sample | 48.1%  | 51.9% | 53.4%  | 46.6% | 52.0%  | 48.0% | 43.6%  | 56.4% | 44.8%  | 55.2% | 50.9%  | 49.1% |

NLG felt that the numbers could have been bolstered in the urban areas. This had a lot to do with the high mobility of people in the urban areas for work, seeking services, or navigating family circumstances, or for opportunities for improving one’s families’ circumstances. Further, other challenges because of loss of employment, domestic abuse, persecution, incarceration, or an inability for to afford the high rent in the city, contributed to lower response rates. As well, the frame and list of the names in the Urban Local areas were also outdated in some instances given this high mobility of people in urban areas. Therefore, researchers were required to adjust and update the addresses and people living in regions as the survey work transpired. This fact, along with the other circumstances mentioned, meant the numbers in the

urban areas and samples from the population were lower than expected. However, the sampling frame was rigorously developed, in addition to a targeted approach based on a convenience sample drawn from focus groups with Elders. The random selection, and subsequently, convenience sampling approach of the willing ultimately targeted people in specific ways leading to an increase in the overall numbers.

Non-response bias was examined (village/urban and over/under-representation) by comparing grouped age cohorts to the actual population sizes (see Table 7). Although distributions by sex for younger adults (both females and males) surveyed in the villages (18–29) matched population demographics, this age group was underrepresented. Although factors such as work, schooling, tending to family obligations, disinterest, homelessness, mental health and addictions may have impacted the lower response rate from this cohort, this underrepresentation does reflect the need to build better trust relationships between the government and younger adults.

There were challenges to reach younger aged (30-39) and middle-aged (40-49) men from targeted urban households. It is strongly suspected that they were working or otherwise unavailable to provide information, leaving them underrepresented. As well, older men (70+) were often difficult to reach, likely because details on the list were outdated, or they may have been in situations requiring elder care and more challenging to reach. In the urban centers, over/under-representation and non-response bias was nuanced and displayed variation. However, the most common reason for non-response was often because people were working. Nonetheless, reliable estimates can be made to sub-regions in urban areas with caution.

When analyzing results from the survey by NLG staff, staff considered how qualitative information collected could be weighted between quantitative (QUAN) and qualitative (QUAL) responses. However, it was felt that the generated QUAL data could be heavily skewed by one or more person's reactions. In essence, not all respondents answered all the questions as profoundly or specifically as others and, in many cases, narrative responses were left blank.

## 7. Discussion

The design and implementation of a successful survey require several well-planned steps to ensure that the results are valuable and significant. NLG had several concerns regarding this pilot project, which were related to the dynamics and circumstances of:

1. Indigenous peoples or populations who live in geographically diverse places;
2. People who move between locations for services;
3. The connection to culture or cultural diversity;
4. Lifestyle preferences and choices;
5. Politics;
6. The connection to the land and one's heritage in establishing a home or bringing one home.

During this undertaking the NLG was able to administer a household survey unique to the context of the Nisga'a Nation that allowed for asking questions specific to the cultural context and everyday realities of the Nisga'a people.

Despite NLG's desire for a higher standard and more follow-ups to households when potential participants were not home (e.g., urban centers such as Metro Vancouver, where numbers were lower than anticipated), administrators were generally happy with the results. Our questionnaire was not mandatory,

as is the Canadian census which compels Canadian citizens to complete the survey by law or penalty, while response rates were satisfactory given the voluntary nature of the survey. Equally, NLG kept the momentum through several difficult periods in the survey process such as the high staff turnover. In addition, while respondents for subpopulations within the Nation could be highly mobile, the support received from the CEOs and CAOs of the Nisga'a Villages and Urban Locals was exceptional and added to NLG's ability to perform its duty and mandate from Executive direction to complete this survey process.

There has also been an opportunity to showcase and empower self-governance through NLG's ability to realize this work and add to effective governance strategies – or future-orientated planning (Smith, 2016:124; Steffler, 2016). As a self-governing entity, NLG aimed to contribute to empowering practices of autonomy over decision-making that could impact and improve the well-being of its citizens (Yap and Yu, 2016). NLG was able to educate its staff and earlier career staff members as interns on this work, create jobs, and ultimately produce reliable and validated results. Administrators gained a deeper understanding of Nisga'a communities, their needs and experiences, and a decreased likelihood of misrepresenting circumstances for Nisga'a citizens. NLG's approach incorporated an inclusionary model for sampling to increase its numbers. Finally, costs were not as prohibitive as initially envisioned given the support gained from Nisga'a stakeholders (Village support and Urban Local support). Administrators collected data collaboratively between NLG and the Village Governments, and the Urban Locals. As a result, there was an abundance of lessons achieved and a few salient learnings.

## 8. Recommendations/Learnings

There are a few suggestions for data analysis based on a hybrid sampling data collection method that NLG adopted, which should be noted. Firstly, reweighting the data using critical demographic variables from the census may help us improve our analysis, particularly when considering other demographic variables from the census and the Nisga'a census subdivision (CSD). Secondly, NLG learned the importance of verifying and validating the data as it is representative along certain key dimensions specific to the cultural nuances and values of Nisga'a reality. NLG reflected on understanding certain principles of Ayuukhl Nisga'a, or those detailed cultural laws and protocols inherent to the Nation (including interpretation and expression by Nisga'a on these laws and codes). Specific aspects and truths about specific societal values should be correlated and considered with the types of questions we asked. In future years, NLG will confirm the subtleties of many of its questions to ensure the specific interpreted meaning is captured as accurately as possible to the intended and assumed way Ayuukhl principals are internalized and collectively interpreted and valued. Concerning this point – there was ample space given to qualitative or narrative responses, and NLG has captured specific content but may have missed other content or misrepresented nuance in the responses. Interviewees emphasized those responses that directly impacted them. As such, NLG will think about the extent to which responses make sense, given that the qualitative information collected can be weighted for importance with perceived meaning, or for that matter, how quantitative responses captured align to qualitative information. In specific cases, qualitative responses can represent subpopulations and should be considered and weighted appropriately in this context.

Other lessons and more practical insights follow that NLG should prepare its staff for such an undertaking, including preparing the team for the length of time and stress this work can incur, such as the long hours

and stress in hearing about people's lives (good and the bad)<sup>38</sup>. Staff that can generally discern from distinctions between qualitative and quantitative methods for data collection will fare better and appreciate the extent of the information they are collecting. They connect to information and use valuable insights to improve and enhance decisions for the government.

One aspect that NLG's administrators felt could be done differently was in training staff in surveying. Unfortunately – in regards to this method of teaching surveying methods to a select few from each Village and Urban Local – there was a higher than expected staff turnover. For instance, a cursory understanding by hired staff led to an underestimated appreciation of the depth, importance, and difficulty of surveying work despite efforts to train staff. Even though those that initially signed up or were encouraged to work by one's respective community, new hires tended to start with enthusiasm for the work but quit once they gained a full appreciation for the scope of the undertaking. As days progressed into the work and the training – those early prospects often left, and NLG's core staff were obliged to seek new participants and begin the exercise again. In many instances, they took on surveying. The high staff turnover placed a heavy burden on NLG's core staff, given that momentum was lost and morale was diminished. In the specific case within urban areas, higher turnover among staff led to hiring older and more mature Nisga'a representatives/interviewers to ensure accountability among less experienced staff. This was done to ensure quality responses and confidence that the work was carried out with a level of rigour desired by NLG administrators.

In hindsight, a more assertive campaigning approach to hiring surveyors that could travel across the four Nisga'a Village communities and the three Urban Locals would have made better sense in supporting staff to build consistency in surveying methods. Ultimately, there was a toll placed on the lead researcher and a core group of workers supporting this initiative because of the need to continually train new staff and ensure quality control measures were put in place (Statistics Canada, 2010:309-317). Despite these challenges and lessons learned, the core group of researchers provided a certain level of validation to the responses and a certain quality to the data that was often difficult to obtain. Subsequently, administrators cleaned, validated and approximated responses rigorously. Researchers could isolate problem areas or sections of the questionnaire that were poorly done – either because surveyors in the field did not understand their tasks or did not ensure quality was subscribed to their work. Again, in these instances, quality measures were undertaken during fieldwork and throughout stages of analysis to ensure quality. NLG specifically pointed to the locations, household surveys, and questions that have a bias or warrant caution in the final analysis (Statistics Canada 2010:309-317). To this end, most responses, the quality of the data, and the inferences and approximations determined are of high caliber and approximates the broader Nisga'a Nation.

Utilizing a mixed-methods approach and unique sampling methodology can enhance the response rate by having a skilled staff that understands the nuances of navigating strategically between convenience, random and purposeful sampling methods. Such insight into the planning of such an approach can augment responses by the tactical system employed. It is vital to identify dedicated human resource support and those with experience in interviewing, including their sensitivity to remain confidential and

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<sup>38</sup> Administrators noted the toll that hearing about the impact of residential schools had on families, also impacted the interviewers.

compassionate as the interview process unfolds. Staff from the area who understand the context make the most influential analysts of the data and its interpretation. Ultimately, having catalysts to the research and skilled promoters to sustain the project are essential given the pitfalls and challenges of maintaining such work. NLG's "readiness" for such a project was noteworthy in the manner in which hired consultant support was leveraged to the benefit of building internal capacity to advance the project strategically. Critical administrative staff that weathered the long journey cannot be discounted for their stamina to sustain this work, nor can a commitment from NLG to advance its performance and ability to carry out its functions as government.

In reflecting on how we can refine NLG's approach in the future, we have considered how writing up this research concerning what others think best practices may assist future endeavours as we believe a subsequent study in the coming years is warranted. We ultimately aim to refine our research methods in the following years to build from the knowledge gained by undertaking this baseline (pilot) study for the Nation. We conclude by observing how some lessons learned from our approach and considerations warrant incorporation the next time we conduct such an initiative. NLG's data collection methods form as part of broader enhancements to performance management local governments can make (Ammons, 2013; Behn, 2003). Indeed, data collection and specifying performance indicators is but one aspect of improving the government's decisions to augment the quality of life for its citizens.

## 9. Conclusion

A cornerstone of effective government – is its ability to raise funds in support of desired initiatives. This pilot study showcases an effort to produce high-quality statistical data that qualitatively expands the understanding of the information gathered, a survey that sees beyond numbers to the stories that make numbers more meaningful and valuable. NLG planning may become more effective and optimize its performance with such data, analysis, and understanding. One significant achievement earned by NLG was acquiring sufficiently robust responses of scale, frequency, and quality data and leveraging this information for multi-year funding to support infrastructure, housing and social programming. The survey work created many other opportunities to increase sharing opportunities for information between the Nisga'a Villages and Urban Locals – and a series of talks among stakeholders shared the results of the data more directly with citizens. There was an opportunity to update the citizenship databases, the frame between citizenship lists with NLG and the Urban Locals, and a refined understanding of the importance of keeping updated citizenship lists sacrosanct.

At the heart of public service and governance is the need to collect data that captures the values, priorities and beliefs that determine people's well-being experiences. Explaining how government policies and programs can enhance the quality of life and effectively respond to its constituents' needs, aspirations, and interests is paramount.

The survey, created through a collaboration between the Nisga'a Nation, its stakeholders and NLG, showcases a style for a type of Indigenous methodology (Walter and Andersen, 2013). Despite certain limitations, administrators exhibited a strength for fusing mixed methods by incorporating varied styles in the sampling and methods employed.

As we advance, NLG hopes that the NNHS will be used for longitudinal data collection and, possibly, as a template for other self-governing nations. We believe this survey methodology helped collect information that aids data-driven decision-making and guides the development of future policy efforts at NLG.

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