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Sustainability is commonly defined as the integration of economic, environmental, and social dimensions. This research narrows its focus to investigate the social dimension and its relationship to the economic dimension: the proper redistribution of wealth to create vibrant and resilient societies. The current research is primarily a subset of social sustainability, which is the impact of implementing a living wage to workers providing tourism services within protected areas. Protected areas naturally attract conservationists keen to preserve pristine environments. Hospitality companies utilize these areas to expand tourism. Private business interests are often supported by lobby groups such as chambers of commerce and hotel associations. Between the conservationists and private-sector owners are the employees that provide essential services from room attendants to bartenders who mostly earn minimum wage. These workers have seen their negotiating power eroded due to the lack of organization and representation unlike powerful environmental groups and private enterprises.

The research achieved the following:

- Defined operationally, measured reliably and monetized relevantly social sustainability;
- From the model developed, measured the current state of the Banff-Canmore Corridor's (BCC) social sustainability;
- From the measures, determined the impediments to improving social sustainability in the Banff-Canmore Corridor such as offering workers' living wages;
- Finally, identified the long-term community benefits of a living wage to workers in a locality.

SUMMARY

Stewardship of the Columbia Basin (CB) requires resolving competing demands while safeguarding sustainability. Current measures and accounts address primarily the economic value by measuring the effect on Gross Domestic Product (GDP). New frameworks such as “Total Wealth” (Wealth) transcend purely economic goals to address community cohesion and environmental resilience. But most new models have key flaws. Wealth is added to current public sector accounts based on GDP accounting implying the primacy of the economic element over the environment and the socio-cultural. Models emulate income statements and income earned rather than balance sheets and stocks of assets for maintenance. Most important, many methods are additive with insufficient monetized recognition of depletion and degradation disclosed so as to manifest real and potential risks. Starting with a model already designed and preliminarily tested I will collaborate with B.C.’s agriculturalists, economists, sociologists, engineers and biologists to

identify, develop, and test standard accounts, indicators, and valuation methods most suited to the CB's industries and lands. Rather than producing another new model, I populate a Balance Sheet using selected metrics to trend environmental, social and economic sustainability. The first year is devoted to obtaining general consensus through youth, expert and other stakeholder engagement on standard measures within a specified geographic region of economic, social-cultural, and natural assets **and depletion**. The second year is devoted to expanding longitudinally and geographically the Balance Sheet to determine the increase or decrease in Intergenerational Equity of the test region. In addition to monetized environment, social and economic trends, the balance sheet helps to highlight potential outcomes of different policy decisions. The outcome is not only a viable Inter-Generational Balance Sheet to be direct future policy continuously, but also training on populating the Balance Sheet and interpreting the results supported by a written text/manual in the name of the CB Trust Fund.

The following grant request is in conjunction with Mitacs (https://www.mitacs.ca/en/about-mitacs) that offers matching funding.for this Post Doctorate project. Mitacs is an innovative Canadian NGO that builds partnerships between non-academic institutions and academia for research-based innovation to improve the performance of provinces and Canada. The condition for accessing Mitacs is a partnership entity that agrees to partially finance the project. The Grant Summary is provided in the section below followed by a very brief Project Description. In addition to the Purpose and Policy Contributions supplied here, upon request are available a Literature Review, the Method, an Action Plan and Stakeholder Engagement to be presented in writing or in person.

Brief Project Description

Purpose

The objective of the grant is to develop a conceptual framework to determine total wealth from a region's natural capital (assets[1]). Heightened competition for increasingly diminished resources requires an easily understood dashboard to foment innovative policy-making that reflects the values of future generations. While economic growth is important, community and environmental impacts must be manifest to ensure their consideration within constant and unavoidable trade-offs in policy-making. Wealth is the

1Although "capital" is the widely accepted term, to avoid ambiguities we prefer the term "assets". For example, Sustainable Prosperity defines natural capital as "a region's stock of natural assets and ecosystems that provide flows of goods and services" (SP, 2014: 4). In this context "capital" is tautological and therefore confusing. "Capital" signifies capital claims (liabilities in accounting terms) as well as capital goods (assets). Natural "capital" is clearly an asset (left) which can be degraded by liabilities (right) such as drought, erosion, GhG and water quality.

sum of economic, social-cultural, and environmental assets enjoyed by the population within an area which generate current and future benefits. By presenting these assets on a balance sheet (assets on the left and asset depreciation/depletion on the right), the benefits and costs of different policy outcomes and options are more visible. The model serves not to judge the importance of one over the other but to ensure that all factors are considered.

In North America, a balance sheet is arranged from higher to lower liquidity. Conversely, a wealth balance sheet arranges assets from greater to lesser longevity. Otherwise said, the left-hand (asset) side is arranged by fleeting Economic Assets on the bottom, more permanent Social-Cultural Assets in the center and long-term Natural Assets top the list as the following model shows.

Overview of Intergenerational Equity Balance Sheet

ASSETS	DEPLETION (Liabilities)
Natural Assets (NA)	Environmental Depletion
Social-Cultural Assets (SCA) (Social and Human)	Human Insecurity (Unemployment, Financial and Physical)
Economic Assets (EA) (Manufactured and Financial)	TOTAL DEPLETION
TOTAL ASSETS	INTERGENERATIONAL EQUITY

Sources: Ambrosie, 2012, p. 380; International Integrated Reporting Council www.theiirc.org

The right-hand side comprises liabilities such as overuse, abuse and borrowing. These are events, natural and human, that deplete the assets on which future generations depend for their social and economic well-being. In addition to Natural Asset depletion, human insecurity (financial, economic and physical) is a deduction from Social-Cultural Assets and Economic Assets. High interest rates, job insecurity and physical danger are costs that diminish disposable income for housing and education (Social-Cultural Assets). The sum of assets (Natural + Social-Cultural + Economic) minus Depletion equals Intergenerational Equity. Otherwise said Intergenerational Equity is the net claim on Natural, Social-Cultural, and Economic Assets owed to future generations due to depletion and human insecurity. Separating the depletion from the assets allows for the manifold effects of degradation to become visible without specific attribution to any one asset which could be insufficient, inappropriate and/or spurious. Moreover, a separate depletion account facilitates policy-making by highlighting the costs of poor decisions or inaction.

Contribution to Policy

The Intergenerational Equity balance sheet is a step towards providing a more inclusive framework that renders visible resource stewardship and the activities which enhance or detract from well-being. Although not a perfect measure, the balance sheet will spur debate about policy directions and resource allocation. The measurement of environmental depletion (or the liability side) is particularly urgent because erosion and biodiversity loss

is unaccounted, meaning that the community benefits from protecting and investing in Natural Assets are obscured. Operationalizing the model provides information that can be used by policymakers to prevent disasters and degradation rather than simply reacting to them. Although all formulations of the Genuine Progress Indices and this balance sheet are subject to criticism of items included or excluded and valuation techniques, the debate over inclusion or exclusion of variables and valuation methods is common to all selected measures from public sector accrual accounting (OECD, 2000) to the System of National Accounts (SNA 2008, 2009) to the genuine progress indices (Neumayer, 2000). Micro-economics, especially environmental economics, have made important advances in valuation methods over the past decade. These methods combined with balance sheet accounts shift the focus to activities and outputs that privilege human development and environmental protection over a narrower focus on economic production and myopic growth.

The balance sheet will not fully represent the benefits provided by the three asset accounts of Natural, Social-Cultural and Economic. Nor will it represent all possible costs of asset depletion. Instead it is the "canary in the coal mine," an early-warning system and a visual aid to policy-making. Monetization, rather than valuating the invaluable, provides a common denominator for discussion of the components and a shared signaling device for policymakers, stakeholders and the general public.

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Research Experience

Linda Ambrosie conducted her doctoral thesis on the topic of wealth accounting. She designed her model after careful analysis of existing models. From an institutional perspective, she described the conceptual changes from economic wealth to sustainability. She assessed the GDP and the different forms of accounting to collect and collate data. Following a summary of accounting principles and measures of equity, she evaluated the different wealth models for adherence to basic accounting principles of relevance, representation, comparability and clarity. Then she proposed a balance sheet to address sustainability. Rather than simply conceptual, she applied the model to the Cancun Marine Parks to illustrate the different accounts, methods and metrics to arrive at Intergenerational Equity. She worked with biologists, sociologists and economists to determine the best metrics. More recently, she has conducted studies for ActionAid (UK) and the Nature Conservancy (Mexico).

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