



Developing national frameworks for inclusive sustainable development incorporating lifestyle factor importance

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ABSTRACT

Sustainable development is an important United Nations agenda, and the determination of which of the sustainable development goals (SDGs) should be prioritized is left up to each participating nation. Stakeholder engagement including all members of society can engender a nationally representative priority SDG set. This research investigates inclusive sustainable development which incorporates an approach to stakeholder engagement. The study assesses precedential scholarship of stakeholder engagement and sustainability evaluation, identifying a gap in terms of the inclusion of household perceived importance of lifestyle related factors in sustainable development policy making and evaluation. Utilizing a case study of the aging, shrinking population of Japan, a representative, national survey of householders is undertaken, demonstrating that lifestyle relevant factors of sustainability approximate jurisdictionally important United Nations SDGs and help to identify priority targets within these goals. Perceived importance variety across household generations is also identified, providing guidance for policy makers in terms of age-relevant policy making and jurisdictionally important cultural factors. The framework proposed has applications in the case-study nation and is also readily applicable to other jurisdictions and for use in comparative studies.

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1. Introduction

In order to support our lifestyles, we consume a number of resources, some of which are limited, and through our consumption, impact upon the environment. Although priorities vary from nation to nation, at the global level we are made aware of some top-level priorities which include protection of the environment and the preservation of limited resources, addressing climate change, economic growth, improving social equity and maintaining quality of life. These priorities fall under the agenda for sustainable development, incorporating 17 Sustainable Development Goals (SDGs; [United Nations, 2018a](#)).

With sustainable development as our ultimate goal, and the need for an inclusive approach to policy making, two key issues are raised as the motivation behind this research: 1) What are the necessary criteria to evaluate sustainable development from a lifestyle perspective? and, 2) How important are these criteria

within the assessed jurisdiction(s)?

The SDGs are not legally binding, however the United Nations (UN) expects that governments will establish national frameworks for their achievement ([United Nations, 2018b](#)). As part of the development of a framework which can consider solutions to these critical issues within sustainable development, stakeholder engagement is likely to play a role in enabling a quantitative, nationally, socially and culturally appropriate evaluation mechanism. Not only will the relevance of indicators (including the SDGs) vary from nation to nation, so will their perceived importance and the identification of a national ideal.

Using a case study of the aging, shrinking population of Japan, the aim of this paper is to explore the perceived importance of lifestyle factors, establish appropriate weightings for future quantitative analysis, and to identify culturally important trends (extolled as missing pillars of sustainable development; [Burford et al., 2013](#); [Hawkes, 2001](#)). This study proposes stakeholder engagement through a national survey, which can be adapted for use in multiple jurisdictions to provide singular or comparative assessments of lifestyle-conscious sustainable development in a quantitative and inclusive manner. The contribution of this work is

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in the detailing of the identified missing pillars of sustainable development through stakeholder engagement and their application to inclusive SDG framework design and complementary lifestyle-cognizant policy making.

This paper begins with a detailed literature review of concepts critical to our methodology and analysis of results in section 2. Section 3 details our methodology incorporating a national survey of Japan. Section 4 details the results of our survey and provides analysis of generational and cultural preferences within lifestyle factors. Section 5 discusses our results, specifically for the Japanese case study and generally in terms of applications toward policy making promoting sustainable development. We also outline replicability considerations and the limitations of our approach before detailing conclusions in section 6.

2. Background and literature review

In establishing sustainable development and sustainability evaluations which are cognizant of social and lifestyle factors, previous scholarship has made strides toward integrating stakeholder engagement and perceived importance in a number of ways. For example, the linking of stakeholder engagement and sustainable development has been explored within the literature, ranging from the effect of end-consumer influence on corporate behavior in terms of climate change or environmental awareness. Haddock-Fraser and Tourelle identified that corporations which were close to their consumers were more likely to be active in climate change and management processes when compared to corporations further from customers (2010). Although there are not always cost-reduction benefits associated with these activities, it appears that reputation is an important business motivator as seen in Environment, Society, and Governance (ESG) and Global Reporting Initiatives (GRI) in recent years – suggesting that consumer choice plays an important role in environmental outcomes. Further, when considering differences between developed and developing nations, an empirical study showed that stakeholder influences is one factor behind corporate environmental responsibility practices and that market stakeholder influences are more pronounced in developed countries (Dogl and Behnam, 2015).

In terms of lifestyle factor importance on sustainability outcomes, precedential scholarship has identified the link between various environmental burdens resultant from lifestyles and household consumption due to its large influence (Ivanova et al., 2016). Dominant among these analyses is the consideration of household carbon footprints due to consumption, a proxy of our lifestyles (Zhang et al., 2015; Wiedenhofer et al., 2018). More detailed analysis of household environmental footprints based not only on consumption expenditure but also considering factors of householder age and income distribution have also been undertaken to establish the impacts of these factors on environmental footprints, utilizing an extended environmental input-output analysis approach (Chitnis et al., 2014; Wiedenhofer et al., 2017). In addition to these national level assessments, recent scholarship has identified the differences between younger and older households, and their differing use of energy and services. For example, it was identified that older people tend to consume more heat energy than their younger counterparts as they spend more time in their houses. For younger people, private vehicles, communications and information spending tends to be higher than for older people due to their prioritization of convenience (Kronenberg, 2009; Shigetomi, 2014). Further, the impact of household composition, geography and differing lifestyles on household footprints has also been explored (Jones and Kammen, 2014; Gill and Moeller, 2018) along with a consideration of the changing shape of society in terms of householder age and population trends toward the

generation of public bads and societal burden (Chapman and Shigetomi, 2018). These studies each consider the lifestyle impact toward environmental burdens as well as the impact of specific factors upon their derivation. In line with the approach taken in this study, the “footprint family” proposes a combined analysis of more than one indicator in order to derive interdisciplinary, sustainable policy measures (Fang et al., 2014).

Often sustainable development and energy concerns go hand-in-hand, and stakeholder engagement in these matters is often contentious, as community stakeholders may oppose actions which they perceive as environmentally unfriendly, while seeking to balance low cost energy provision and the conservation of the environment. A pertinent example is given by Epstein and Widener through the development of a sustainable development framework to inform energy policy in Wyoming and decision making about gas drilling and energy provision. Using a willingness to pay (WTP) framework, they discuss tradeoffs between the perceived importance of convenience and wildlife and environmental preservation (2011). When considering energy transitions, particularly from fossil fuels to renewable energy approaches, stakeholder engagement with energy policy experts was undertaken in Australia to determine a priority retirement schedule for black and brown coal fire power stations. This investigation of both policy priorities (as identified by experts) in order to determine critical sustainability criteria and to identify the co-benefits of climate change mitigation considering key stakeholder (local residents) social equity and energy justice outcomes and which indicators most significantly influence these outcomes, leading to policy development processes which better consider the gamut of stakeholder's socio-economic status (Chapman et al., 2018).

Urban planning, including public transport decision making can also incorporate stakeholder engagement, promoting the goals of economic development, sustainability and livable communities, as in the example of the USA where it is contended that the success of planning efforts relies on consensus between not only key project stakeholders but also the general public. Through a series of surveys, interviews and focus groups, benefits of access to passenger rail, such as increased tourism, retail, office and residential development were identified along with issues and obstacles such as convenience and competing funding priorities. Due to the inclusive nature of stakeholder engagement employed, it is expected that outcomes will provide guidance to transportation planners in the development of railway networks (Rangarajan, 2013). Another example of urban planning investigates the social equity impacts of mega-solar siting in Japan, detailing the interaction between local governments, private industry, landowners and residents through surveys and case studies (Fraser and Chapman, 2018). This study identifies that although local governments and their residents hope for improvements in amenity, social equity, and seek compensation the leverage available to communities with regard to mega-solar is significantly lower than that for centralized power plants of the past due to the abundance of cheap, suitable land for deployment.

The outcomes of such jurisdiction-specific investigations may be useful for ex ante sustainable development decision making. With regard to sustainable energy strategy development, the impacts of a participatory approach were explored through two case studies in Canada, demonstrating how stakeholder input and resultant policy recommendations are addressed by government (Adams et al., 2011). The stakeholder engagement approach included identification of stakeholders, including the energy utilities and the establishment of principle goals and objectives. This was followed up by the development and elaboration of scenarios and the interaction with stakeholders through formal dialogue and opinion surveys. The final outcomes, in terms of policy recommendations were fed back to stakeholders before ultimate

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