Article

An Analysis of the United Nations Conference on Sustainable Development (Rio +20) Discourse Using an Ability Expectation Lens

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Abstract: The United Nations Conference on Sustainable Development (Rio +20) was hosted in Rio de Janeiro, Brazil, from June 20–22, 2012, 20 years after the first Earth Summit, with the intention of creating solutions to current global environmental issues. In this paper we present the results of an analysis of academic and newspaper articles that covered the Rio +20 summit, using an ability expectation lens. Articles were collected from academic databases such as EBSCO, as well as from newspapers such as the Globe and Mail (Canada) and China Daily; the articles collected were coded for ability expectations using an extensive list of codes which has been designed to identify ability expectations. Analysis of the discourse has revealed a number of ability expectations, such as the ability to produce and consume, the ability to work, and the ability to control. These ability expectations reveal what is seen as a necessary part of development. The opportunities and challenges which occur during development may be related to the expectations of the public, academic, private and not-for-profit sectors. The authors submit that in order to move forward towards universal sustainable development, it is critical to consider the ability expectations which are both explicitly and implicitly included in the Rio +20 discourse.

Keywords: ability studies; ability expectations; Rio +20; content-analysis; discourse

1. Introduction

1.1. The United Nations Conference on Sustainable Development (Rio +20) Discourse

The United Nations Conference on Sustainable Development (Rio +20) was held 20–22 June2012 in Rio de Janeiro, Brazil. The conference was intended to bring together representatives from countries, non-governmental organizations (NGOs), and other stakeholders in order to discuss the progress which has been made and the challenges still apparent since the first Earth summit in Rio de Janeiro 20 years earlier. Prior to the conference, two themes were developed which were meant to be the main focus of the conference, namely: a green economy in the context of sustainable development and poverty eradication; and the institutional framework for sustainable development [1]. The outcome of the conference left many stakeholders disappointed [2]; it is believed that nothing substantial was achieved and although there was a great amount of positive dialogue at the conference in which many solutions to current climate change issues were proposed, there was little if any commitment made by countries to follow through with these solutions [3].

Leading up to the conference, a host of activities and discussion occurred, including: advocacy events for and by environmentalists, economists, foresters, farmers, academics and other stakeholder groups; preparatory committee meetings held by the United Nations; and the development of zero draft submissions that involved revisions based on the demands of different stakeholders. Along with the United Nations, there were academics, professionals from a variety of fields, public and citizen stakeholders from a range of sectors and parts of the world who participated in creation of zero draft submissions and hosting of events which became a part of the discourse. As well, the media has contributed to the discourse by reporting on the activities and events leading up to the summit. The Rio +20 discourse includes discussion within and amongst academic and non-academic parties.

1.2. Ability Expectations

Ability expectations (want stage) and ableism (need stage) are cultural realities which were first thematized by the disability rights movement in the United States and Britain [4] to highlight the sentiment that certain abilities of the human body are desired (want stage) or perceived as essential (need stage), and thus having such abilities is necessary to be seen as normal [4]. Ableism is seen as often leading to the negative treatment of individuals whose abilities do not fit ability expectations [5]. Within disability studies, ableism is seen as problematic because certain abilities are expected; this position is opposed by those who claim that rational beings would not want to have a disability (lack certain abilities of the body), and therefore certain abilities are essential [6–8].

Ability expectations and ableism are mostly applied to abilities of the human body, such as the ability to walk and the ability to see, however the desire and expectations of abilities is much broader and widespread phenomenon [9]. Using an ability expectation lens when conducting a content analysis provides a specific frame of reference which helps to reveal abilities desired in the content being analyzed. Within a given discourse, certain abilities can be portrayed as necessary while others are discussed in less critical, or even in negative terms. Various sustainable development discourses put forward numerous ability expectations, whereby often no consensus is evident as to the importance of a gives ability e.g., competitiveness [10]. However, there is very little research so far which explicitly uses

an ability expectations lens, particularly to analyze an environmental issue; however it is becoming more common, starting with the first Eco-ability conference having just taken place at Binghamton University, New York organized by the Eco-ability collective with support from the Institute for Critical Animal Studies (ICAS) at Binghamton University, New York. As well, the lens of ability expectations and ableism (ability studies lens) has been employed in research including the analysis of energy security [11] water [4] education for sustainable development [10] and waste [12] discourses. The term Eco-ableism is used to look at abilities that enable and disable ecological systems [13,14].

1.3. Ability Expectations in Rio +20

This research uses the ableism lens to analyze scholarly and non-academic sources that covered the Rio +20 summit since the last Earth Summit, in Johannesburg in 2002, in order to reveal the manner in which the United Nations Conference on Sustainable Development has been discussed and communicated between and amongst the academic, professional and public sectors. This research will contribute to the body of literature on sustainable development, particularly for the Post-2015 discussion (the next step in the development process following the end of the Millennium Development Goals), by identifying areas related to development which are seen as essential. The use of an ability expectation lens to examine environmental or development discourses is a unique and underused method of revealing preferences. By revealing the underlying ability expectations which are present in the Rio +20 discourse, the areas of sustainable development which are considered essential will become apparent. This may illuminate which areas of development will not become obsolete or forgotten, and which will likely continue and even grow as global development continues. The importance of understanding what is seen as essential in development is directly related to better understanding why certain areas of development are thriving (or failing), thus making development issues more transparent. The opportunities and challenges which occur during sustainable development may be related to the expectations of the public, academic, private and not-for-profit sectors. This research will provide a better understanding of these expectations.

The authors conducted the research without any pre-existing hypothesis. The simple question being addressed in this paper is: Are there ability expectations in the Rio +20, and if so, what are they? In the discussion the implications of any ability expectations will be discussed.

2. Methods

2.1. Data Source

The sources used in the analysis include academic literature (articles from peer-reviewed journals) and newspapers (The Globe and Mail (Canada), China Daily, National Post (Canada), Calgary Herald (Canada), New York Times (USA), The Independent (UK), The Guardian (UK), The Times (UK), and (Malaysia Star) and the Canadian Newsstand, a collection of 300 Canadian newspapers.

Knowledge share, an academic software created by Dean Yergens from the University of Calgary [15], was used to collect academic articles through the University of Calgary library via the following databases: EBSCO—which includes among others Environment complete—Web of Knowledge, Web of Science,

Scopus and Jstor. Knowledge share downloads the files that include the abstracts of the articles from the databases as RIS files.

As for the newspapers the Globe and Mail, National Post, Canadian Newsstand, Calgary Herald, and the New York Times were collected using University of Calgary Proquest online databases. Articles from China Daily, The Independent (UK), The Guardian (UK), The Times (UK) and Malaysia Star were collected via the websites of the respective media. Within Canada, the newspapers used made our search nearly exhaustive; the use of the Canadian Newsstand offered 300 different newspapers, in addition to one local newspaper, the Calgary Herald, which often discusses energy issues, as well as both national newspaper, the more liberal Globe and Mail and the more conservative National Post. Globally, the main sources of information from the US, Asia and the UK were used. These newspapers were chosen in order to collect an array of articles from a variety of different sources and countries, thus encompassing the discourse from a wide range of backgrounds.

Data collection started in the fall of 2011 and continued until May 2013. Articles were collected which were written starting from after the Johannesburg Summit in September 2002 to the Rio +20 Summit in June 2012; for the newspapers, data was also collected for the time after the summit, June 23 2012–May 1 2013. These dates were chosen in order to capture the discourse leading up to the Rio +20 summit since the last summit. The exception to the date restrictions was in the Independent, which only offered articles from 2004 onwards, rather than 2002. Other restriction criteria included English only, Newspapers only, full text available.

The authors chose to use the ability expectations framework to analyze the discourse in order to identify the abilities which were discussed in the discourse. The authors chose this specific framework to provide a novel approach to analyzing the Rio +20 discourse; rather than looking at the discourse as a whole, the authors searched the discourse for abilities. The ability expectations lens provides an understanding of what abilities are seen as essential in the discourse, based on the frequency of the discussion of certain abilities.

2.2. Keyword Strategy and Article Selection

A keyword search of the various data sources was conducted, using the key phrases "United Nations Conference on Sustainable Development" and "Rio +20" in order to find articles discussing the conference using either name.

The articles collected from Knowledge Share were chosen individually by each of the researchers, and then merged. The resulting kappa factor is 0.85, indicating that the authors were exhibiting an acceptable level of agreement; of 409 abstracts collect, 117 articles were chosen, and 101 were used (based on duplications) including documents from EBSCO—which includes among others Environment complete—Web of Knowledge, Web of Science and Scopus. There were not any relevant results in the Jstor database.

The newspaper articles were counted manually after conducting the search, in order to control for duplicate articles with different names, but identical writing. The authors acknowledge that there may be discrepancy between the final hit count found, varying by no more than a few articles.

2.3. Coding

After relevant articles were identified, the articles were uploaded as PDF files into ATLAS.ti©, a qualitative data analysis software (CAQDAS) [16,17], and analyzed for content, firstly by reading the articles, then using an initial list of codes, and adding to the list as other topics appeared in the articles. This method is known as pattern coding, described by Rowlands [18]. Codes have been developed to search the articles and documents in order to reveal the underlying ability preferences. The initial list of codes was based on a list of ability expectation codes developed by one of the authors. After an initial code hit count, the codes which had the highest frequencies (the codes and their synonyms which appeared in the majority of the different sources) were analyzed within their contextual basis. Some of these codes were grouped into themes based on their relevance to each other and the manner in which they were discussed. The codes which were not grouped are considered their own theme.

The next step of the analysis entailed using Atlas.ti to highlight the quotes in which the codes were found, and analyzing these quotes within their contextual basis. Contextual analysis includes looking for bias and tone, and considering the subjects which are being discussed in relation to the code. For example, when searching using the code "employ", both who was included in the discussion regarding employment and how employment was being portrayed were included. It is important to consider the manner in which the abilities are discussed [19], such as who is meant to have the ability to control and govern and which products are seen as essential consumer goods. Content analysis allows for a complete and holistic analysis which reveals the manner in which the discussion is held [19].

3. Results

3.1. Rio +20 in Newspapers

Table 1. Coverage of Rio +20 in chosen newspapers.

	China Daily	National Post (Canada)	Canadian Newsstand (database of 300 Canadian newspapers)	Calgary Herald (Canada)	New York Times (USA)	The Globe and Mail (Canada)	Malaysia Star	The Independent (UK)	The Guardian (UK)	The Times (UK)
Before Rio +20 (2002–19 June 2012)	4	8	57	9	5	2	4	30	360	9
After Rio +20 (23 June 2012–1 May 2013)	6	2	63	1	8	0	5	3	225	13

Table 1 shows the coverage of the Rio +20 conference in the newspapers analysed, which was found to be very scarce. The authors had anticipated finding ability expectations in both the academic

and non-academic sources; however the newspapers offered very little discussion of Rio +20. The Guardian, UK, was found to be an anomaly, as it covered Rio +20 frequently. Based on the scope of newspapers chosen, the authors felt that the findings indicated that Rio +20 was not a common topic in newspapers and did not conduct any further searches. Therefore, although all the sources were used to identify ability expectations, due to the scarce number of newspapers articles most of the analysis of the ability expectations was focused within the academic sources.

3.2. Ability Expectations of the Rio +20 Discourse: Overview

Within the Rio +20 discourse analyzed, including newspapers and academic articles, there is an emphasis on moving forward, developing and enhancing the current economic, social, and environmental systems. The codes which have the highest frequencies (Table 2) include themes such as enhancement, innovation and capacity building. There is frequent discussion of new creations and innovations which will assist in furthering sustainable development. There is also a large amount of discussion on governments and leaders, as well as who should participate and in what way. The discourse commonly refers to the need for leadership and the responsibility of governments to control and lead the way in sustainable development. Some themes are apparent throughout the discourse, while others are mostly discussed within the academic discourse. There are not any themes or codes which are discussed strictly in the non-academic discourse; this may be attributed to the nature of the non-academic sources, in that they are mostly reporting and media which report on what is happening within the governments and organizations leading up to Rio +20. The codes and themes are meant to highlight the most prevalent discussion in regards to Rio +20.

The codes which were found in the highest frequency are:

(1). Account
(2). Access
(3). Create/Innovate/Invent
(4). Consum* Produc*
(5). Collaborat*/Cooperat*/
(6). Dialogue/Communicat*
(7). Control/Manage/Govern
(8). Enhance/Strengthen/
(9). Improve
(10). Capacity building
(11). Fund/Finance
(12). Educate/Learn
(13). Employ*/Job*/Labour
(14). Leader*
(15). Measure/Calculate/Assess
(16). Particip*/Engag*
(17). Welfare/wellbeing/well-being/well being/livelihood

* Indicates that the word was searched in its root form in order to adjust for different tenses and variations.

Some of these codes were grouped into themes based on their relevance to each other and the manner in which they were discussed. The themes include:

(1).   Create and Innovate
(2).   Consumerism
(3).   Control
(4).   Education
(5).   Employment
(6).   Enhancement
(7).   Human welfare
(8).   Involvement
(9).   Leadership
(10). Monetary Support
(11). Quantify
(12). Work Together

Table 2. Coverage of codes in academic articles.

Theme	Code(s)	Hit Count (% of docs from total)	Theme	Code(s)	Hit Count (% of docs from total)	Theme	Code(s)	Hit Count (% of docs from total)
"Involvement"	Particip*	47 docs 46.5% 285 hits	"Control"	Control	29 docs 28.7% 115 hits	Access		50 docs 49.5% 291 hits
	Engag*	35 docs 34.7% 148 hits		Manage	36 docs 35.6% 221 hits	"Employment"	Employ*	13 docs 12.9% 68 hits
"Create and Innovate"	Create	46 docs 45.5% 183 hits		Govern	32 docs 31.7% 987 hits		Job	20 docs 19.8% 42 hits
	Innovate	0	"Monetary Support"	Fund	41 docs 40.6% 254 hits		Labour	11 docs 10.9% 23 hits
	Invent	12 docs 11.9% 22 hits		Finance	21 docs 20.8% 46 hits	"Quantify"	Measure	42 docs 41.6% 217 hits
"Consumerism"	Consum*	40 docs 39.6% 320 hits	"Leadership"	Leader*	44 docs, 146 hits		Calculate	3 docs 3.0% 6 hits
	Produc*	28 docs 27.7% 333 hits	"Enhancement"	Enhance	37 docs 36.6% 94 hits		Assess	41 docs 40.6% 211 hits

Table 2. *Cont*.

Theme	Code(s)	Hit Count (% of docs from total)	Theme	Code(s)	Hit Count (% of docs from total)	Theme	Code(s)	Hit Count (% of docs from total)
"Work Together"	Collaborat*	29 docs 28.7% 77 hits	"Enhancement"	Strengthen	10 docs 9.9% 48 hits	"Human welfare"	Welfare	9 docs 8.9% 18 hits
	Cooperat*	41 docs 40.6% 254 hits		Improve	41 docs 40.6% 134 hits		Wellbeing	11 docs 10.9% 32, hits
	Dialogue	19 docs 18.8% 60 hits	"Education"	Educate	3 docs 3.0% 9 hits		Well-being	16 docs 15.8% 47 hits
	Communicat*	27 docs 26.7% 96 hits		Learn	30 docs 29.7% 122 hits		Well being	20 docs 19.8% 32 hits
Capacity building		20 docs 19.8% 26 hits	Account		46 docs 45.5% 146 hits		Livelihood	13 docs 12.9% 44 hits

Based on the frequency of appearance of certain ability expectations the following ability expectations are portrayed as essential within the Rio +20 discourse:

- Accessibility
- The ability to hold someone or something accountable
- The ability to create and innovate
- The ability to produce and consume
- The ability to work together
- The ability to control and lead
- The ability to provide monetary support
- The ability to enhance
- The ability to learn and be educated
- The ability to work/be employed
- The ability to quantify progress
- The ability to engage/participate
- The ability to be well

The following Sections 3.3–3.17 provide non-numeric results of the contextual analysis of ability expectations most commonly discussed in the Rio +20 discourse.

3.3. Accessibility

Throughout the discourse, accessibility is discussed in the same manner. Access to water and sanitation, food, healthcare and health services, natural resources, technology, electricity, energy, education, justice, and information are all decidedly important throughout the discourse. Within this

discussion on access to needs and services, groups who are frequently unable to access many of these elements are discussed, including women, the elderly, children and youth, indigenous populations, and populations in developing countries; less commonly, people with disabilities are referred to (see Table 3 for hit count). Within the academic discourse there is at least one article for each accessibility issue and for each marginalized group who experience accessibility issues. Articles from the newspapers cover accessibility issues to a lesser extent.

Table 3. Coverage of stakeholders in academic articles and the Rio +20 outcome document.

	Academic: Knowledge Share (101 docs)	*The future we want*
Business & Industry	22 docs, (21.8%), 62 hits	14 hits
Children & Youth	24 docs, (23.8%), 69 hits	22 hits
Farmers	6 docs, (5.9%), 9 hits	9 hits
Indigenous People/group/ community/population	8 docs, (7.9%), 10 hits	13 hits
Local Authorities	5 docs, (5.0%), 9 hits	4 hits
NGOs	22 docs, (21.8%), 111 hits	3 hits
Scientific & Technological Community	1 doc, (0.99%), 1 hit	3 hits
Women	15 docs, (14.9%), 322 hits	48 hits
Workers & Trade Unions	13 docs, (12.9%), 58 hits	14 hits

3.4. The Ability to Hold Someone or Something Accountable

Accountability is a common topic throughout most of the discourse. Within the academic discourse there is frequent discussion (n = 82) on the ability to hold someone, some entity, or something accountable. Many articles explore holding businesses accountable for their actions and impacts on society, for example: "Corporations must be held accountable to the highest binding standards" [20]. Other articles discuss accountability in governance, and on holding governments responsible for taking initiative to create sustainable development. A common phrase which comes up throughout the discourse is "transparency and accountability", used in the context of how governments should manage climate change initiatives. "Account" within the newspapers yielded only irrelevant results. It is apparent that within the majority of the discourse, it is considered critical to be able to hold a given entity accountable for any actions taken.

3.5. The Ability to Create and Innovate

Creation and innovation are discussed in a positive context within the Rio +20 discourse. The articles often discuss and report on the creation of funding and financing for innovative new sustainability projects, such as new low-impact agricultural techniques. The discussion also included the creation of laws and legislation which protect indigenous populations. Moreover, there was presentation of

innovations which are helping to achieve global sustainability, "innovations in production and consumption" [21], the creation and innovation of new opportunities, ideas and solutions, as well new institutions, agencies and governing bodies. There is environmental innovations, new clean energy technologies, the creation of jobs and employment; as well, there is innovative dialogue, collaboration and public engagement, and the creation of new frameworks for sustainable development. The innovations range from new technologies to new governance frameworks, and include physical inventions such as communication technologies and abstract methods, such as education on sustainable food production [22]. In fact, technology is commonly discussed in relation to innovation and creation.

Throughout the discourse, the ability to create and innovate new solutions in order to achieve sustainable development is emphasized.

3.6. The Ability to Produce and Consume

There is little emphasis on increasing production or productive capacities throughout the academic and non-academic discourse, with the exception of a few articles such as "Green Economy: Challenges and Opportunities", which portrays consumerism as essential [23]. Instead, many articles explore the idea of sustainable production and consumption in order to achieve sustainable development. This sentiment is reflected in *The future we want*, in which there is emphasis on shifting to sustainable patterns of production and consumption [1]. The literature discusses production and consumption in terms of the need to reduce consumption and become more sustainable in production. One quote summarizes the overall sentiment in the discourse:

"An important part of the move to a green economy involves changing patterns of production and consumption so that they are less environmentally damaging and less carbon-intensive" [24].

Various articles discuss the common issue of overconsumption and unsustainable production, and the need to regulate and control current consumption and production practices. One article remarks that: "It must be recognized that efficiency increases accruing from technological innovations can become perverse incentives to consume more" [25]. The possibility of overconsumption and unsustainable production resulting from creating new and more efficient technology is commonly explored in the academic discourse (and to a much lesser extent in the non-academic discourse), and is often followed by a discussion of the need for regulations and control over production, and the need for more cautious consumption.

The need for equal consumption and production habits on a global scale is also addressed; various articles discuss the dichotomy between developing and developed nations and the unequal distribution of consumption patterns. Remarks such as: "The unequal past consumption of the global carbon budget has reinforced unequal bargaining power between rich and poor and represents a threat of compound injustice" [26] are common, particularly within the academic discourse. This topic is discussed in a more negative way, it is apparent that the developed world consumes more than what is deemed as appropriate according to the discourse. The majority of the articles which discuss unequal production and consumption place blame on developed countries for overconsumption.

Production is also discussed in reference to what needs to be produced. The nature of the code (produc*) also brought results more closely related to the "create and innovate" theme, such as the need to produce sustainable agricultural practices. Commonly throughout the discourse agricultural

production, and to a lesser extent energy production, are discussed. This is reflective of the discussion within the United Nations, which named both food and energy security a top priority to be addressed at the summit discussion [1].

3.7. The Ability to Work Together

"The transition to a green economy is both a global and a national movement, where cooperation and coordination are paramount" [23]. It is apparent throughout the discourse that communication, cooperation, collaboration, and dialogue are critical in order to promote sustainable development and achieve the goals set forth by the United Nations, as well as other goals such as the proposed Sustainable Development Goals [27]. Communication is portrayed as a necessary action, and the development and use of communication technology is discussed frequently, particularly in the academic discourse. Cooperation within and amongst various sectors is discussed as crucial, particularly intersectoral and multilevel cooperation, such as between NGOs and industry, and between local and federal governments. Both public-private collaborations and cooperation amongst international governments are discussed broadly as a general solution to any issues within climate change actions and sustainable development. There are also specific examples of these collaborations, such as the interactions amongst students during the Dialogue and Action for Earth Summit 2012, as reported in The Scarborough Mirror, a Canadian newspaper in Toronto [28]. Throughout the discourse, the efficacy and importance of communication amongst all sectors is portrayed as essential.

3.8. The Ability to Control and Lead

The need for governance and leadership is apparent throughout the discourse; nearly every article acknowledges that management is crucial to achieve any environmental goal, whether it is the Millennium Development Goals, the movement to a green economy, or creating micro-level sustainable development. Within the academic articles alone there are 2931 hits for govern*. The discourse represents management and leadership as necessary elements in order to achieve the goals of the Rio +20 conference.

An academic article titled *Institutional design and UNEP reform: Historical insights on form, function and financing* [29] discusses the need to spread out governance rather than placing the UNEP in charge of all actions; this is a common theme throughout the articles, there is frequent discussion regarding the desire for transdisciplinary, multilevel, and subnational governments. Many academic articles explore the idea of developing multilevel governance within countries and amongst countries, and discuss the importance of multisectoral approaches to governance.

Discussion of management includes the need for management of natural resources, including water, forest, and marine ecosystems; this ties in with the discussion of the role which governments are meant to play, according to a common consensus throughout the discourse. The discourse calls for governments to regulate, control and manage the actions of sustainable development while allowing for participatory action which involves all stakeholders and groups. Environmental governance is a common topic throughout the discourse. It is clear that both academics and public stakeholders are seeking government leadership for every aspect of sustainable development.

Leadership is regarded as necessary when discussing sustainable development initiatives; moreover, interactions amongst leaders are commonly discussed as critical for progression in sustainable

development. Interestingly, alongside the discussion of government and political leaders, there is frequent reference to female leaders, and the need for women to be in roles of leadership. There is also mention of business leaders. However, there is little mention of any other group or individual who could be a leader; government, women, and businesses are the only entities suitable, according to the majority of the articles throughout the discourse.

3.9. The Ability to Provide Monetary Support

"The key to this is financing" [30]. Within the discussion of providing monetary support, there is a common demand for developed nations to support developing nations; the onus is placed most commonly on developed nations to produce financing in order to support sustainable development initiatives in developing countries. An explicit example: "With financial help from the rich countries" [31]. Financial support from the internal governments of developing nations is rarely discussed. Funding from other external sponsors is suggested, such as financial support from the United Nations Environmental Programme (UNEP). From the discourse, it seems that sustainable development is meant to be achieved with the help of international support.

Moreover, consistent and dependable funding are called for; several articles comment on the lack of commitment to funding and the need for improvements. "Previous pledges of financial aid from developed countries to developing ones on various issues of sustainability, such as climate change and a green economy, need to be honoured" [32]. The need for dependable funding comes up throughout the discourse.

3.10. The Ability to Enhance

Within the ability to enhance, the codes included enhance*, strengthen and improve* as well as the discussion of capacity building. Consistently throughout the discourse there is the sentiment that the ability to enhance is necessary, however what it is that needs to improve ranges from strictly environmental improvements to enhancing human welfare. Within the realm of the environment, the discourse discusses the need to improve management of natural resources, global environmental governance, sustainable development, institutional frameworks and the capacity of the United Nations Environment Programme, renewable energy sources and biodiversity. Beyond environmental aspects, literature discusses enhancing cooperation and coordination, participation, education and knowledge transfer. In the discussion of the human aspects, the discourse discusses the importance of improving health and wellbeing, welfare and quality of life, as well as poverty eradication. The documents which were written on behalf of an organization often comment on the need for improvements.

Importantly, although not every article discusses every group, throughout the discourse essentially every group, stakeholder, and citizen is acknowledged.

3.11. The Ability to Learn and Be Educated

The ability to learn is portrayed as absolutely essential throughout the discourse. Whether it is regarding sharing lessons learned or learning new skills. The ability to learn is discussed as a fundamental aspect throughout the discourse.

While there is a substantial amount of discussion on the need to learn (about 1/3 of the articles from each source of literature) there is scarce discussion regarding education. Although the discourse places an emphasis on the need to learn new skills, new technologies, and new sustainable practices, discussion regarding how this education should/could occur is scant.

When discussing the importance of education, it is often listed with health, wellbeing, safe drinking water, adequate sanitation; for example, in an article written for The Vancouver Sun: "extreme poverty, improving access to education and reducing child mortality" [3]. This portrays the sentiment that education is seen as just as important as health.

3.12. The Ability to Work/Be Employed

Labour is discussed in the same context as food security: it is seen as essential. Throughout the discourse the ability to work is regarded as one of the most important aspects in achieving sustainable development; "decent work for all" [1] is portrayed to be not only a part of sustainable development, but as an outcome which must be achieved. From the UN News Center, an article titled *Ahead of summit, Ban urges G20 to focus on promoting sustainable economic growth* reports that "Secretary-General Ban Ki—moon today stressed the need to find ways to stimulate the global economy and create jobs while ensuring inclusive green growth that drives sustainable development" [33]. The discourse portrays work as an element so critical that it seems as though choosing not work is not an option considered by academics, reporters, or to members of the United Nations.

Jobs are discussed as a deciding factor in social welfare; co-occurrences of the two topics are frequent throughout the academic discourse. The ability to work is discussed as being equally as important as being healthy.

3.13. The Ability to Quantify Progress

Throughout the discourse, the ability to measure progress is discussed as important, yet there are only a few aspects which seem to require quantification. Measuring and assessing progress, creating a new measurement to replace GDP as a measure of wellbeing, assessing particular projects which are currently underway, risk assessment, environmental assessment, and "Millennium Ecosystem Assessment" are all mentioned throughout the discourse. It is clear that measuring progress of current projects, and the ability to quantify success is regarded as essential. Beyond measuring wellbeing, project success, risk, and the environment, little else which either academic or non-academic circles seem to believe is essential.

3.14. The Ability to Engage/Participate

Commonly throughout the discourse, the need for universal participation in the sustainable development discourse, in sustainable development actions and in sustainable development governance is regarded as critical. The ability to participate and engage in all aspects of sustainable development is discussed throughout the discourse. Women, public citizens and civil society, private firms, public-private partnerships, state and non-state actors, and International Organizations are discussed as entities which ought to be included. Interestingly, young people are only mentioned in the non-academic discourse.

Particularly in the academic articles found in Google Scholar, the importance of engaging developing nations in sustainable development is regarded as essential. One quote illustrates the sentiment which common throughout the discourse:

"NGOs, local governments, corporations, and a host of civil society actors converged on Rio, sharing their experiences, urging action, networking, and considering their roles in the global governance of environmental problems. This widening of participation in global environmental governance emerged and was potent precisely because the conference reflected another trend in global governance, the pluralization of global authority" [34].

3.15. The Ability to Be Well

The discussion regarding welfare is consistent throughout the discourse. Whether it is a letter to the editor in a Canadian newspaper or an academic author writing on the green economy, it is clear that the wellbeing of the human population is perceived as a critical component in the Rio +20 discourse. The importance of considering human welfare is frequently discussed as an outcome of the green economy, for example "There are two transformative ideals of a green economy. It is an economy that looks after the natural world and it is an economy that explicitly pursues well-being for all" [35]. As well, human wellbeing is used as an argument when discussing the need to protect biodiversity and the environment—"Governments and economic actors need to be won over to the idea that long-term well-being is linked to economic development that is energy and resource efficient and protective of biodiversity" [36]. The last manner in which wellbeing is discussed is related the ability to quantify; throughout the academic discourse there is a demand for a measurement beyond GDP which can quantify the wellbeing of a population: "develop an economic yardstick that is more effective than GDP for assessing human well-being" [37]. Human welfare is held in high regard within the Rio +20 discourse.

3.16. Stakeholders

The visibility of stakeholders in a discourse reveals the extent to which some groups are seen as important and discussed frequently while other groups are seen as less important and are consequently marginalized. This is a part of ability expectations, as it demonstrates the expectations of various social groups.

As can be seen, many other stakeholders are not discussed, such as people with disabilities and those living under colonial rule.

3.17. Portrayal of Energy

The extent to which an energy source is discussed and the way in which it is discussed reveals how it is perceived; for example, if oil is discussed as a part of development and the use of oil is never questioned, it shows that oil as a source of energy is seen as necessary. This is another way the ability expectations lens shows the expectations of certain energy sources.

There is not anything unique in the Rio +20 discourse on any of the energy sources. Most of the academic articles do not discuss the energy sources specifically, but oil and gas are often in a list of natural resources which are considered necessary. Specifically, there is the typical discussion about oil production, transportation, and consumption, and discussion about the use of solar, wind and hydropower

as alternative energy sources. In the newspapers, the articles discuss Alberta's oil and gas industry, using the usual back and forth arguments to increase or to decrease drilling. All of the energy sources are portrayed as necessary in the articles which discuss them, particularly oil and gas.

4. Discussion

4.1. Lack of Coverage

In the newspapers the coverage of Rio +20 was incredibly scarce. In fact, Oscar Pistorius was covered more than Rio +20 in the New York Times (13 hits for the conference *vs.* 186 hits for Pistorius). One can speculate reasons for the huge gap in knowledge translation: perhaps the publishers of the newspapers feel that Rio +20 is irrelevant, perhaps they feel it is more important to cover the more commonly discussed issues found in magazines, *etc.* According to Chomsky and Herman, a critical factor which influences media and the subjects and events which journalists choose to report on is the cost of publishing. Thus, the institutions which control the funding for media have a substantial amount of control. These institutions include the government and other political powers, corporations, advertisers, and any individual involved with powerful influences; the first two are referred to as "elites" by Herring and Robinson, who defend the idea of media being influenced by funders and those with political power [38,39]. One exception to this lack of coverage of Rio +20 is the content of The Guardian (UK), which seems to focus more on environmental issues. A difference in the source of funding could be one possible reason for this, as would reflect the ideas of Chomsky and Herman.

The major implication for this lack of coverage is that the public is not being informed about major international processes. This means much of the public may be ignorant to the Rio +20 summit, as well as any of the Earth Summits. Sustainable development requires uptake by the public, thus the authors submit that it is crucial to generate more public discussion about events such as Rio +20, as well as discussion about sustainable development processes in general.

4.2. Accessibility

Accessibility is critical to sustainable development and is one of the five criteria named to be crucial in order to achieve development using a human rights framework [40]. Within both the academic and non-academic discourse, access to basic human needs is discussed in a holistic manner; this has positive implications for the entire population. Previous research has demonstrated the benefits of improving accessibility during sustainable development, including accessibility to land-use [41], to transportation [41,42] and to energy [43]. These studies acknowledge that sustainable development depends on many different factors and that by improving accessibility to these elements, sustainable development will become easier. Accessibility is likely to continue to be addressed during the development process.

4.3. The Ability to Hold Someone or Something Accountable

The ability to hold someone accountable is a generally positive tool which places responsibility on the actor for his, her, or its actions. However, within the Rio +20 discourse, there is a great amount of emphasis on the importance of accountability, and of holding someone and something responsible for

any outcome, whether it is positive or negative; this may lead to the "blame game", where negative outcomes which no one is directly at fault for will be blamed on any stakeholder. An example of this is demonstrated by Focht, who discusses three different books which all place blame on poor governance. While the authors of the books also offer one general solution, aka improving governance, Focht discusses the contrasts in the specific solutions, due to blaming different levels of government [44]. Placing blame is more likely to hinder development than to enhance development.

Based on the context in which accountability is most commonly discussed, this will likely not be the case; most articles explore the idea of "transparency and accountability" within governance, referring to the actions being taken by governments. The majority of the quotes which include the ability to hold someone or something accountable refer to actions already being taken by a specific group, which mitigates the possibility of the blame game. The authors submit that it is still critical to be cautious of using accountability to avoid addressing the issue and instead addressing who should be held responsible. Time is better spent solving the issue, rather than spending time deciding who is at fault.

4.4. The Ability to Create and Innovate

The emphasis on the importance of creating and innovating new solutions in order to achieve sustainable development is likely to have positive implications. Throughout the discourse new innovations, inventions, techniques, and methods are suggested and discussed in regards to achieving sustainable development and promoting creations which are sustainable and will not negatively impact the environment or populations. In fact, often the innovations are directly inclusive of groups who are in need. For example, *A land children in a forest of dreams* [22] discusses the creation and implementation of an educational program which teaches children to grow their own small gardens as a method of subsistence farming:

"Nicolás Chacaliasa Fernández is teaching several small children how to plant and take care of native species seedlings. As a promoter working in the Tierra de Niños, he has seen the results of the children's effort."

This new method of teaching children sustainable agricultural practices is likely to contribute to "the ability of future generations to meet their own needs", a goal described in the Rio +20 outcome document *The future we want* [1].

The positive discussion regarding the ability to create and innovate, and the inclusive context in which this ability is discussed is likely to produce positive reactions and to enforce the creation of practices and inventions.

4.5. The Ability to Produce and Consume

The ability to produce and consume is not at the top of the agenda in any part of the discourse, instead it is commonly discussed as a negative practice which must be reduced. In 1994, the Natural Resources Forum concluded that patterns in production and consumption would have to change and become less dependent on natural resources, in order to preserve the environment for future generations. The Forum also recognized the uneven patterns in consumption between developed and developing nations, and discussed the importance of changing this inequity [45]. 18 years after this

forum, the Rio +20 conference reaffirmed these conclusions about the importance of sustainable (and equitable) production and consumption. The Rio +20 discourse is also in agreement, discussing the need for more sustainable consumption and production patterns, which will help achieve sustainable development. Furthermore, the recognition that there are currently unequal patterns of consumption may lead to greater awareness and improved practices.

What is missing from the discourse is the answer to "who?"; who is producing unsustainably and who is not experiencing an equal opportunity to receive the fruits of the production of food and energy. Further discussion of these issues and answers to the question will contribute to accessibility and to accountability. Those who are overproducing must be held accountable for their actions and those who are not receiving enough to survive must be provided access to the necessary consumer goods and services.

4.6. The Ability to Work Together

The ability to work together is seen as essential throughout the discourse; this can be positive, as collaboration amongst countries leads to global improvements, meaning sustainable development may more easily be achieved. The importance of partnerships is discussed throughout the entire sustainable development discourse, and is recognized as a critical element in good governance as a part of sustainable development; various examples are provided by Glasbergen, Biermann and Mol in the book *Partnerships, Governance and Sustainable Development: Reflections on Theory and Practice* [46]. Collaboration will remain a critical part of development, and more public-private, government-public, and other partnerships will likely continue to occur. These partnerships are seen as a solution to development issues.

4.7. The Ability to Control and Lead

It is clear throughout the Rio +20 discourse that the abilities to control and lead are seen necessary, yet that a new form of leadership ought to be established. Within the text it states that there is a need for restructuring of governance frameworks, reforms in governance, and increased management; the majority of the articles favor restructuring governance to include more partnerships and collaborations. This is complementary to the discussion about partnerships. Articles which discuss the need for more government control, the need for multilevel multidisciplinary governments, and the need for management of natural resources are clearly in favor of restructuring current governance. These articles clearly state that, in order to achieve sustainable development, there must be greater involvement and control in sustainable development initiatives. The restructuring of governance will likely become more apparent during the development process, as it is discussed as essential in the discourse.

4.8. The Ability to Provide Monetary Support

It is clear that funding and financing is seen as crucial for sustainable development. This implies that there will be pressure placed on those in a position of financial stability to fund sustainable development projects for those who are not in the same position. In the discourse developed nations are called on to provide monetary support for projects being undertaken in developing nations. It is unclear the extent to which this financing will occur; there was very little discussion of financing from

any government's perspective. However, several financing groups made various commitments, particularly those for the recent Clean Development Mechanisms projects [47].

While the discourse discusses the importance of funding and financing, the actual effectiveness of financing from external sources has come into question. In fact, a literature review of 200 studies since 1997 found that the Clean Development Mechanism is not necessarily effective in enhancing sustainable development [48]. As well, aid is not always without stipulations, such requesting policy reform in exchange for monetary support [49]; this influence the funder has can be either positive or negative, depending on the intentions. However, other research encourages financing in development, suggesting that it increases the rate of development [50]. Despite that the discourse portrays funding as beneficial, some academic research suggests otherwise; further information is needed on the impacts of funding, using case and country specific examples, in order to provide relevant information to potential funders.

4.9. The Ability to Enhance

Considering the diverse discussion within the theme of enhancement, the discourse produces a positive and inclusive tone regarding enhancement in relation to achieving sustainable development. It is evident that improvement is a key goal within the discourse.

4.10. The Ability to Learn and Be Educated

There is clearly a parallel between the agreement that education is crucial and the manner in which this education may be achieved. Education is listed alongside health and wellbeing and childhood mortality, yet there is no discussion throughout the discourse which addresses the methods in which this learning may occur. This reveals a gap in the discourse, as there is little recognition of education programs, nor is there mention of the arising field of education for sustainable development (ESD) [51,52]. ESD emerged from the 2004 declaration by the United Nations that 2004–2015 is the Decade for Education for Sustainable Development; ESD is committed to providing environmental education in a socio-cultural context, taking into account political, economic and social differences amongst regions [52]. Greater recognition of ESD may lead to improvements in education, which is discussed to be as critical as health and wellbeing in the Rio +20 discourse. This suggests a future direction for the sustainable development discourse in general: recognizing ESD and its contribution to sustainable development education.

4.11. The Ability to Work/Be Employed

Based on the frequent discussion regarding employment, it is likely that employment will continue to be addressed as an important factor in development. Outside of the Rio +20 discourse, the ability to work is not as common in the general sustainable development discourse. Considering the emphasis placed on the value of labor, there is the possibility that there will likely be an increase in labour. The impact this may have on sustainable development has yet to be researched; further research in this area may be beneficial.

4.12. The Ability to Quantify Progress

The discourse calls for more measures of progress which take into account human wellbeing; achieving this may lead to the ability to analyze certain sustainable development projects for efficacy, and evaluate the actions being taken to achieve sustainable development. Research in the field of measuring sustainable development has been ongoing and many authors present measurements which take into account all of the aspects seen as essential in the Rio +20 discourse and more; from looking at broad topics such as ecological, economic and social factors to measure sustainable development [53] to measuring carrying capacity and resilience [54]. In knowing this, which actions and projects are the most effective will become clear and sustainable development can be more easily and effectively achieved.

4.13. The Ability to Engage/Participate

Active engagement of all stakeholders is positive, as it provides perspectives from all angles. This is related to the ability to work together and collaborate, as individuals and citizen stakeholders may see an improvement in the ability to engage with the private sector and with government to create public-private and public-government partnerships. As discussed previously, this will improve governance in sustainable development [46].

Participation is an ability expectation which is linked to stakeholders, however the discussion of different stakeholders is not a part of the ability to participate, but instead a part of the expectation of certain groups; therefore stakeholders are analyzed in a different Section 4.15.

4.14. The Ability to Be Well

In the discourse, wellbeing is seen as necessary in order to achieve sustainable development; therefore, it is implicitly addressed as a goal which must be reached in order to achieve sustainable development. Current research suggests that human wellbeing will be positively impacted by sustainable development and will therefore improve throughout the process along with the environmental and economic factors [55,56]. Furthermore, investing in human wellbeing will contribute to sustainable development, by combining education in sustainable development with education in poverty reduction [56]. Addressing wellbeing is seen as necessary in the discourse, and is seen to be beneficial to sustainable development.

4.15. Stakeholders

Groups calling for a more engaged role, and groups who were previously invisible and marginalized were all included in the discourse. The frequency in which these groups were discussed varied—e.g., women were discussed significantly more than people with disabilities—but overall, each group was included. This may mean that over time we will see more inclusivity in sustainable development actions.

When stakeholders are not discussed as frequently, there are negative implications for that group. For example, the importance of the role of women is not mentioned in the non-academic discourse; this may lead to a lack of concern for including women in roles of leadership in public action. As well, people with disabilities, those living under colonial rule, and Canadian and American First Nations are not discussed. Each stakeholder has particular needs, such as accessibility issues for people with disabilities.

If these groups are not recognized, their needs will not be discussed, and therefore not addressed in policies and actions. Implications for this include poor health, discrimination, high unemployment rates, and social exclusion. Without addressing the needs of these groups, holistic and inclusive development cannot be achieved; it is critical to include these groups in the discussion of sustainable development.

4.16. Portrayal of Energy Sources

By portraying the energy sources (oil, gas, coal, solar, hydro, and wind power; see Table 4) as necessary, the Rio +20 discourse is confirming the typical attitude that the global population needs energy to flourish. This is not different than many other environment discourses; acknowledging energy as a need is common throughout the general/broad environmental discourse [57].

Table 4. Canada's major energy sources hits in various documents.

	Knowledge Share (101 docs)
Oil	32 docs, (31.7%), 99 hits
Gas (manual hit count)	11 docs, (10.9%), 27 hits
Coal	5 docs, (5.0%), 10 hits
Solar	11 docs, (10.9%), 23 hits
Hydro/hydropower	5 docs, (10.9%), 14 hits
Wind power/ wind energy	5 docs, (10.9%), 6 hits

Note: Searched codes using whole word search.

4.17. Other Themes and Co-Occurrences

"Now with a solid empirical foundation, the leaders at Rio +20 and its follow-on summits to address poverty and advance food and climate security need to prioritize a commitment to recognize the rights of Indigenous Peoples and communities to forest land and resources" [58]. This is an example of the way those who attended the summit were regarded as leaders. It seems as though all of the summit attendees are considered leaders on sustainable development. This has many implications for both those leaders who did not attend the summit and those people who attended the summit who are not considered leaders. Those who attended may not be fit to take on a leadership role, yet the discourse labels the attendees as "the leaders at the Rio +20" summit. There may also be leaders who did not attend the summit, those who were instead working in communities and government to help create sustainable development, yet whose roles did not make them eligible to attend the Rio +20 summit. When discussing sustainable development, everyone involved should be included in the discussion, rather than only those who attended the summit.

"Without this sort of leadership by states, no amount of civil society participation can bring improvements, because only states can make international law and create governance structures" [59]. This is an interesting co-occurrence of the discussion of leadership and of participation. Many argued for both, however, few discussed the relationship between the two. This implies that the discourse did not address the importance of the involvement of leaders in sustainable development actions.

Throughout the articles, the topics of discussion of the green economy vary considerably, however when it comes to the green economy and human welfare, the sentiments are the same. One comment inspires hope for the implementation of the green economy to improve wellbeing: "There are two

transformative ideals of a green economy. It is an economy that looks after the natural world and it is an economy that explicitly pursues well-being for all" [35]. Another quote appears to be labeling the green economy as a Band-Aid solution to our wellbeing issues: "The 'green economy' agenda is an attempt to correct market failures that lead to perverse outcomes for the environment and human wellbeing" [60]. Although both quotes are saying the same thing, essentially that the green economy is meant to enhance wellbeing by protecting the environment and those living within it, the first quote is a hopeful message the green economy will work whereas the second quote is a callous comment that the green economy is a solution to the major problems we have created. The range of opinions in the discourse shows that there is not universal agreement on any of the topics related to Rio +20.

The ability to control is not limited to the discussion of governance, management and control. It is apparent in many of the themes which are discussed; the contexts in which other abilities are explored often discuss the need for control and management. This can be seen in the ability to create and innovate, in which many articles discuss the need to create laws and legislation, and governance frameworks. These are meant to increase control over populations.

4.18. Comparing the Ability Expectations to the Final Result of the Conference

Comparing the ability expectations in the outcome document, titled *The future we want*, to the discourse reveals that both include the same ability expectations. The same codes were used to analyze *The future we want*, and nearly every code appeared at least once; some codes appeared much more than that, including access (61 hits), cooperat* (55 hits), enhance (44 hits), govern (55 hits), improve* (46 hits), manage (59 hits), produc* (45 hits), and strengthen (68 hits). This indicates that the outcome was succinct with the discourse in regards to ability expectations. This strengthens the argument that the ability expectations seen as essential in the discourse will remain a part of sustainable development.

4.19. Comparing the First Rio Outcomes with Rio +20

The original Rio de Janeiro Summit produced a very different document which is very different from *The future we want*. The only codes which had any hits were: access (2 hits), account (1 hit), assess (1 hit), consum* (1 hit), control (2 hits), cooperat* (9 hits), creat* (2 hits), improve* (1 hit), innovate* (1 hit), manag* (3 hits), measure (3 hits), participat* (5 hits), produc* (4 hits), strengthen (1 hit). The entire document only had 36 hits for the codes, compared to *The future we want* which had 768 hits. This can be partly attributed to the language used, but also to the focus of the document. While Rio +20 focused on human involvement and human development, the original Earth Summit had more focus on environmental protection as a primary concern which could be negatively impacted by development. The message of the original Rio Earth Summit was about how the absolute change of humans' outlooks and actions were critical in order to achieve both environmental protection and economic development. Commitments to changing patterns of production and public transportation, using alternative energy sources and addressing water scarcity issues were at the top of the list [61]. In Rio +20, the concern was more revolved around human involvement and the integration of social development; the two goals were related to poverty eradication and institutional changes [1]. Thus, there was a shift to a greater focus providing human abilities during sustainable development, whereas in the 1992 Earth Summit the abilities were more related to reducing impacts on the environment. Implications for

this include the possibility of losing concern for environmental degradation due to the focus on increasing human development.

5. Conclusions

Throughout the discourse, ability expectations are apparent, particularly those which involve working, innovating, and leading the way in achieving sustainable development. The Rio +20 discourse entails positive discussion around ways to achieve the goals of the summit, and although the summit was perceived to be a disappoint, the academic and non-academic discourse reveal that the public and academic/professional communities are willing to work in achieving those goals as well. The authors submit that the discourse lacks coverage of certain stakeholders, and holds certain abilities in high regards which may leave some groups who do not have those abilities marginalized. This may hinder progress, as not everyone will be able to participate in achieving sustainable development in the ways which the discourse has covered. Any missing discussion, such as marginalized groups, provision of education, and the involvement of leaders in sustainable development action, has implications for policy makers, as these gaps ought to be addressed in order to continue progress towards sustainable development. There are also implications for governments and policy, as sustainable development is clearly seen as a priority to the academic and public sectors. While Rio +20 did not achieve the goals it set out to [2,3], the discourse covered a wide range of topics and the authors consider the conference can be seen as a first step to achieving sustainable development.

Conflicts of Interest

The authors declare no conflicts of interest.

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