Sapientia Global Journal of Arts, Humanities and Development Studies (SGOJAHDS), Vol.6 No.2 June, 2023; p.g. 123 – 133; ISSN: 2695-2319 (Print); ISSN: 2695-2327 (Online)

CORPORATE WATER ACCOUNTING, IASS/IFRSS GAP AND THE ROLE OF ACCOUNTING PROFESSION

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ABSTRACT

This study examined corporate water accounting, International Accounting Standard (IASs)/ International Financial Reporting Standards (IFRSs) gap and the role of accounting profession. Firms cost of water and environmental effects are regulated through environmental laws and corporate social responsibility (CSR) disclosure. Extant literature revealed there is neither IASs nor IFRSs by International Accounting Standards Board (IASB) which addresses measurement and disclosure of full costs of water in financial reporting of corporate organizations neither any guiding local standard from Generally Accepted Accounting Principles (GAAP) nor Financial Reporting Council of Nigeria on full water costs measurements and disclosure in financial reporting by local firms relying on water usage. The study adopted the library research which entails a review of literature and finds deficiency in IASs and IFRSs in the recognition of full costs of water in financial reporting by water drilling companies. The study suggests for IASB to develop accounting framework that should guide financial statements preparer in full water cost reporting globally in a uniform manner. Future researchers shall find this study useful when undertaking a similar research. Future researchers should empirically assess the effects that the risks of corporate water could have on financial performance of developing countries companies.

Keywords: Corporate Water Accounting, Water Resources, IASs/IFRSs, Gap, Risks.

INTRODUCTION

The importance of water to animals, vegetation, human and corporate organizations in the light of water scarcity indifferent regions of the world cannot be over emphasized. Demand for quality and adequate water supply in the face of water shortage is on the ascendancy in varying countries and continents in the world. Scarcity of water in some regions of the world, particularly in developing countries is gradually making water an economic good. Sustainability (2014) emphasize that water is fast becoming a commodity to be paid for and traded in a manner similar to for instance, oil and gold. No wonder the United Nation in its recognition of water, has set a day aside to mark water day globally on a yearly basis. In the view of Remali, Husin, Ali and Alrazi (2016), scarcity and low supply of quality water has remained a fundamental ecological challenge in some African countries like Nigeria, Somalia and others. In some of these countries, water scarcity and contamination is causing a lot of diseases to human, animal sand adversely affecting corporate operations. Hence, Mudd (2008) states that toxic water consumption can adversely have effect on human sand animals

in the environment. Miranda, Sauer and Shinde (2010) embarked on a study on while majority of the companies are directed to stick strictly to environmental laws which seek to mitigate the risk of contamination common with operations such as mining, water quality has remained a major concern among local stakeholders. The economic implication of water and the associated risks informs the need for organization to account for its costs.

In recent times, opinions abound that costs related to water be treated as full cost accounting. The intention is to ensure that the peculiar challenges associated with water usage is treated and accounted for. In doing this, the accountant in the organization has a professional role to play at ensuring the costs related to corporate water are treated using defined accounting principles, conventions, rules and standards. However, there are divided views on how costs related to water in a corporate setting should be recognized, measured and treated under certain accounting rules, conventions and standards. Renzetti and Kushner (2004) assert that it is unclear how estimates, measures and changes associated with water costs in corporate organization that mostly use high volume of water in productions should be accounted for. This is so because there are no available Accounting Standards (IASs and IFRSs) which spells out the manner in which the financial costs of water should be fully accounted for. This puts the accountants in the organization in a dark spot on financial treatment of full costs related to water. The only possible escape route for the accountant in the absence of accounting standards is to recognize and treat water costs as administrative expenses. Hence, Renzetti and Kushner (2004) see accounting for water utility in corporate organization as somewhat incomplete.

Since the year 2001, over 150 countries have adopted the IFRSs with the purpose of providing a single set of quality that is high, understandable and uniform accounting standards and this enables companies to speak one accounting language globally (Dakata & Hasnah, 2016). Companies which adopt IFRSs stand a chance to minimize asymmetric information and enhance accounting information quality. This further improves the relevance of accounting numbers by enforcing full disclosure from the managers. The varying IASs and IFRSs stipulate how items should be recognized, measured and disclosed in companies' financial statements.

In the same vein, a critical assessment of the former local standard, the Statement of Accounting Standard (SASs) and current IASs and IFRSs shows that a vacuum exists on how full cost of water should be accounted for in financial reporting by water drilling/users organizations globally. Thus, in the absence of a stipulated accounting standard from accounting standard setter like the International Accounting Standard Board (IASB), it is difficult to account uniformly for the full financial costs of water operation in corporate organizations globally. Ameliorating this gap implies that concerns be made by policy makers and regulators to legislate and come up with a standard to take care of full cost of water accounting in modern corporate organization locally and internationally (Chave,2002). It is suggestive that accounting for corporate water in businesses is premised on effectiveness of policy thrust in legislating for environmental laws and standards. Environmental laws, legislation and standards are guiding frameworks in corporate water accounting. In developing countries and some developed countries with exception of Australia, it is explicit there are no accounting standards or Generally Accepted Accounting Principles (GAAPs) on recognition, treatment and disclosure of water usage/costs within corporate water account.

While the International Accounting Standards numbers 2 and 41 (IAS 2 and 41) expressly concern accounting for inventory the recognition, measurement and disclosure in financial statements of companies, it fails to state how the full cost of water as inventory may be accounted for in financial reporting in firms like Coca-Cola, Guinness PLC and other brewery companies that rely heavily on water for production of products. Given that water usage constitutes a major cost to these sets of firms. To close this gap requires that the International Accounting Standard Board developing a standard for the accountants to adhere to in financial reporting incorporate organizations.

Water accounting issues in companies are commonly locked in environmental concerns otherwise refers to as corporate social responsibilities (CSR). For example, the spillage of water from a company pollutes or contaminates the immediate environments. This adverse effect makes stakeholders to demand for social responsibility from a company in the immediate environment. This is why in corporate social responsibility context, a business firm and the immediate society are seen to be interrelated. Corporate water accounting and environmental reporting (CSR) was first enunciated by Carroll (1999) under four kinds of primary responsibilities which encompass economic, ethical, legal and philanthropic corporate social responsibilities. The environmental responsibility in which corporate water accounting is situated is primarily concerned with a firm's economic productivity. Economic productivity is basically the prime objectives of most corporate businesses which depend on water usage.

Water itself is essential in the economic productivity and activities in corporate organizations which major line of business hinges on it. Water is a key element which firms into the production of food and beverages, power generation, semi-conductor, textile paper and pulp processing, oil drilling, mining and other metal companies depend on largely (Raj, 2015). Adhering to legal regulations including corporate water legal regulations and frameworks largely constitutes a corporation's legal responsibility. One of the key areas in philanthropic responsibility is the need to effectively report on corporate water in the satisfaction of shareholders and other stakeholders in companies. Although water accounting may have been a concern and somewhat applicable in public authorities like irrigation authorities and water utilities board such as water board management in the context of Nigeria, its focus is gradually on privately owned businesses in varying sectors of an economy and quoted firms inclusive. Similarly, in extant literature, there appears to be a near void of academic studies on corporate water accounting (Christi & Burritt, 2017a). Against this backdrop, this paper examines corporate water accounting, IAS/IFRS gap, situating the role of the accountants in the absence of water accounting standard in financial reporting in a global context.

Emergence of Corporate Water Accounting

It is understood that "Corporate water accounting emerged in the 2000s as a response to concerns over mismanagement of water resources by business and recognition that the future would see periods of water shortage become more frequent and severe" (Chapagain & Tickner, 2012 a s cited in Katherine & Roger, 2018, p.5). Overtly, frequent water shortage and severity always emanates from water mismanagement and policy in corporate organizations.

> In the view of Signori and Bodino (2013), mismanagement of water arises due to over exploitation of surface and ground water sources and concerns with

> water quality, often made worse by overdrawing existing fresh water supplies that exceed recognized recharge rates and the minimum flows needed to preserve biodiversity and healthy riparian and surface water systems.

Companies need access to suitable information in other to effectively manage water resources (Christ & Burritt, 2017a). Although for some time, macro-level techniques for the management of water have been in place (Vardon, Bumett & Dovers, 2016). As a different and unique area of interest, emphasis has been made on corporate water accounting by Morrison et al. (2010) that companies have varying motivations that require different type of data. Water accounting developments have been driven by several groups (Christ & Burritt, 2017b). They note that academics in the clear picture of analysis have played a major role in corporate water accounting. The amount of water embedded in different products is sought to demonstrate the concept of water.

In the accounting literature, Cashman (2011); Chalmers, Godfrey and Potter (2012a); Signori and Bodino (2013); Chalmers, Godfrey and Potter (2012b); Egan (2014a); Egan (2014b); Egan (2014c); Hazelton (2013); Daniel and Sojamo (2012); Allan (2012); Larrinaga and Chamorro (2008) emphasize that the focus of research on the issue of water is primarily on the aspects of reporting and processes. These are described as the methods of recording as well as the reporting of water information (Godfrey& Chalmers, 2012).

Classical Taxonomy of Water Accounting

Corporate water accounting can be classified into the levels of macro and micro. It is basically at the national as well as global levels. In recent times, the macro water accounting has drawn the attention of policy makers and researchers. Australia is one of the countries that have globally led to the advancement of water accounting. The Australian Water Accounting Standard number one (AWASI) is found to be general-purpose water accounting (GPWA) standard. GPWA is founded primarily on the principles of financial accounting (Christ & Burit, 2017a). Though there are tendencies that corporate businesses might always fallback to the use of the Australian Water Accounting Standard number one (AWASI), the research on the general – purpose water accounting is little globally (Tello & Hazelton, 2018). Compared to macro level of water accounting, micro level of water accounting is noticed to be the umbrella term which integrate the collection of tools and methods principally for business corporations. Examples of these tools and methods encompass the various water footprint methods such as ISO2014; Water Footprint Network (2018) and other initiatives which overtimes have been developed by industry associations (WBCSD, 2012) and Non-governmental Organizations (NGOs).

Corporate Water Accounting and Role of the Accountants

Corporate water accounting's purpose is to ensure the provision of reliable and sound data as the basis for good water governance. The objective of corporate water accounting and accountants is to provide decision makers with access to data to inform organizational water–related decisions (Christ & Burrit, 2018). The professional accountants play a significant role in the preparation of effective water accounting and financial reporting to promote all-inclusiveness and which further brings together different users of water from diverse backgrounds, cultures, and educational levels. Development of corporate water accounting standard and international financial reporting standing by IASB through the instrumentality

of the professional accountants could create a common 'water' language as well as the understanding among water stakeholders and managers globally. This could influence investors to invest in companies in water and mining business, thus enhancing firm market value and economic activities in a country, all things being equal. Development of accounting standard by standard setter over water accounting could go a long way helping to identify cross-sector water problems in corporate organizations. Development and application of water accounting standard by the accountants can bring about the improvement of transparency over the allocations of water and make it possible or stakeholders to challenge policy-makers to implement sustainable solutions that may be at odds with short term voter, legal and fiscal interests. An understanding of water accounting standard by the accountants assists the external auditors in water auditing and further enables water accounting to inform debates about regulatory, ownership, and management roles of private, public, charitable, as well as water user/drilling organizations.

Nexus between Corporate Water Accounting and Other Disciplines

The nexus between corporate water accounting and other disciplines is refers to as Trans disciplinarily (Christ & Burritt, 2017b). Trans-disciplinarily in the viewpoint of corporate water accounting has its implications. It simplifies and addresses the complexity in water management given the varying approaches and treatment from other disciplines in water management (Shrivastava, Ivanaj & Persson, 2013). According to Max-Neef (2005), corporate water accounting at broad level, has a link with varying fields of study like accounting, hydrology, engineering, meteorology, geography and law. Although some renowned professions till date have showed the willingness level to move further than their various disciplinary boundary to embrace the research and development of interdisciplinary. Evidence from the literature and tools of water accounting presently suggests that this is hardly achieved through the collaboration of research between practitioners and academics (Christ & Burritt, 2017b). A lot of researchers, for instance, have tried desk research, undertaking analysis of practice in specific firms (Daniel &Sojamo,2012) while others have decried the fact that a lot of water experts do not engage or communicate their efforts with those outside of academia (Chapagain & Tickner, 2012). As opinionated by Christ and Burritt (2017a), the lack of such engagement in the development of corporate water accounting may have hampered the very progress advocate steamed to see.

Corporate Water Risks

This may be regarded as the different number of water risk that may adversely affects the operations of a business from time to time (Money, 2014). Gleick (2012) opines that corporate water risk in the context of sustainable water management strategies are primarily driven by the need to ensure firms social and legal license to operate; to prevent operational crises as a result of inadequate freshwater. It aims to ensure profit able future for present and future businesses and supply chains. Other primary reasons include upholding corporate value and gaining competitive advantage (Gleick, 2012).

Physical corporate water risk has to do with the likelihood of operating in situations and areas of too little water or too much water (flooding)(Raj,2015). In the case of a reduction or scarcity of physical availability of water, it may adversely impact directly on companies operations as well as production of raw materials. Covertly, in a condition of too much water, this also adversely affects firms' operation and financial performance. For instance, in the probability

of increase in water contamination, this increases the financial costs of water treatment and filtration to a firm. This eventually reduces the profitability of the company, consequently the wealth of the shareholders.

Corporate water reputational risk principally emanates from the perception stakeholders have about corporate water management practices and operations that may impinge on performances (Raj, 2015). The resultant effect of this is a decline in the confidence of investors. It leads to sharp conflict within the local communities. It negatively affects the brand value of a firm and snowball into adverse regulatory processes (Raj, 2015). Corporate regulatory water risk concerns subliminal legal performance. This leads to repercussions by way of affecting the firm's license to operate in the area / jurisdiction. In the same vein, some situations occurrence like variability in environmental conditions or disharmony in local community stakeholders could mount tensed pressure on the local government authority and even induce political influence to reassess and revoke a firm corporate license and debarred from accessibility to freshwater. This is replete in developed nations with good legislation and standards on corporate water accounting and reporting.

Corporate water financial risk can be regarded as the perceived financial risk associated with water scarcity. It is one of the causal factors of possible change in the quality of water or policies capable of producing greater efficiency in firm's operation. This can lead to new and costly requirements on corporate water management practices (Raj, 2015). According to Gleick (2012) and Money (2014), corporate water financial risk affects operation negatively and causes loss in revenue due to other twin water risks. Consequently, it has a direct impact on the financial performance of companies.

Social Accounting and Water Accounting: Is there a Contrast?

Accounting for water seems to be an integral part of the social accounting tradition. Water, which is the most important resource for the survival of human and non-human life on the planet (Bergoglio, 2015), and the issues related to its "management" and "control" have implications that affect the economic, ecological and social dimensions. As is widely known, financial accounting is aimed at providing all stakeholders with a specific attention to the investors' information about the economic/financial results and the survival/development prospects of the business in the market. Financial accounting does not measure the impacts of the organization activities that have not direct or indirect market evaluations, with all the limitations of accounting principles and legislations. In the annual financial accounts, thus, a specific water accounting could be useful in providing information about the costs and expenditures that a firm may incur when water is used in its business operations. In addition, financial accounting could provide information about the risks for damage or fines that are related to ineffective water policies. With regard to this, Barton (2010) and Morrison and Schulte (2012) have emphasized how accounting is pivotal in providing (financial and non-financial) information for 'governing' the risks (e.g. operational and reputational) related to managing water. However, as mentioned before, annual financial accounts can only include, as required by the existing accounting principles, strictly financial/market oriented effects and results.

On the other hand, social for justifying the role and potential contribution of water accounting (Hopwood, 2009). In much of the SEA tradition, impacts of the business's activities on

stakeholders are seen in a synergic way, where the economic, social and environmental effects are intertwined and, in many regards, integrated. From this perspective, an "accounting" which is able to provide techniques for accounting for and controlling the interrelated aspects related to water seems to share many of the characteristics of social and environmental accounting (Russell &Thomson 2009; Bebbington et al., 2014). In this sense, therefore, water accounting could be considered as an extension and enlargement of the traditional social accounting with a specific focus and emphasis on water and its management-related issues.

Empirical Review

Since the emergent of corporate water accounting in 2000s, there has been growing numbers of empirical researches. For instance, Wales, Ogden (1995) used profit sharing and organizational change to examine newly privatized water industry and case study approach was adopted. The study concluded that water profit sharing was primarily seen as a celebration of the new success, and as a means of communicating the redefinition of the criteria for judging corporate water accounting success. Rogers, Silva and Bhatia (2002) reviewed water and sustainability and they concluded that water is an economic good in many, if not most, countries of the world. Prisor (2009) investigated the water risks of 100 largest Australian companies, including managing disposal, scarcity, managing excess water and potential environmental impacts. He found that the critical water risk was water availability rather than price. The study outcome of Morrison et.al (2010) points out that corporate water accounting impacts on the financial position of organizations, particularly in the longterm, thus making the inclusion of monetary data on appropriate addendum to corporate water accounting. Kurland and Zell, (2010) examined water and business. They concluded that researchers are talking about water issues and that water-related articles included in this study seem to fall into three categories: essays, quantitative theoretical and qualitative case studies. Ahmad, Tower, Plumber, and Aripin (2012) examined transparency and clarity of water accounting. They reported that additional communication is required from Australian water authorities especially in area of the amount or possible water, storage capacity and insights on quality and valuation of water. Hazelton (2013) reviewed accounting and water information and concluded that corporate water disclosures may not necessarily be in the form of annual sustainability report, but may include reporting by government agencies via product labeling and public data bases. Egan (2014a) reviewed disclosure practices of companies within the water-intensive food and beverages industry. They concluded that most companies engage with water issues at some level and that the lack of water use information. Remali, Husin, Ali and Alrazi (2016) undertook an exploratory study on water reporting among top ten (10) Malaysian public listed companies based on market capitalization and water risk profile. They employed content analysis on the company. The empirical finding reveals that water related disclosure is still fairly low among the ten (10) companies with most of the information scoring only '1'.Christ and Burritt (2017b)(reviewed contemporary water accounting and concluded that the implementation of corporate water accounting is best achieved when a top-down and a bottom-up approached are used together. From the foregoing, it is explicit no studies have conceptually and empirically corporate water accounting and its implications on firm financial performance. This constitutes a possible gap for researches by future researchers. Gibassier (2018) investigated corporate water accounting. Data were collected for 2010 to 2014 on water risk assessment tools, water reporting framework, water external ratings and water recounting methodologies. The data were analyzed using Atlasti software versions. The result shows that French multinationals

have a very immature reporting on corporate water accounting. The study also found that most companies do not report the water disclosure questionnaire of carbon disclosure project (CDP).

Conclusion and Recommendations

The paper has explored and contributed to the debates on corporate water accounting, situating the role of the accountants in the absence of standard in financial reporting. The paper concludes that there is deficiency in the international accounting standards (IASs) as well as international financial reporting standards (IFRSs) in the recognition, measurement and disclosure of full costs of water in financial reporting by water drilling/exploratory companies. Following this, the authors therefore suggest that the International Accounting Standard Board should urgently develop an accounting standard framework that should guide professional accountants in full water cost reporting globally in a uniform manner. Future researchers are advised to empirically assess the effects that the risks of corporate water could have on the financial performance of listed companies in developing countries.

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