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Competencies for sustainable financial and economic management: Their impact on human capital development and national security

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Abstract: The relevance of the study is determined by the orientation of modern society towards the strategy of sustainable development. The advent of the era of "globalization through sustainable development" is accompanied by the strengthening of "old" threats and the emergence of "new" ones. According to the article, the sustainability viewpoint systemically links the social, economic, and environmental domains into a dynamic, long-term view, which is the fundamental contribution of the perspective to the examination of security challenges. It also signifies a paradigm change in how public administration functions when analyzing security risks at the state and federal levels. Competences for sustainable financial and economic management are considered in frames of sustainable public management, implying, in particular, positive impact on human capital and contributing to national security through ESG paradigm implementation.

Keywords: *Human capital, Public administration, Security, Sustainable development, Threats.*

1. Introduction

The idea of sustainability has great strategic relevance as an explanatory factor for matters pertaining to national security. Sustainability is a key strategic idea for the private sector and has the potential to revolutionize U.S. national security strategy. It originated in the tactical level management of industries and facilities. The majority of definitions of sustainability discuss methods for achieving resource sufficiency. According to the U.S. Environmental Protection Agency (EPA), "everything that we need for our survival and well-being depends, either directly or indirectly, on our natural environment". Sustainability is viewed as a comprehensive idea. The EPA's stance is that effective stewardship of natural resources is necessary for there to be a future for humanity. Future population viability will be in jeopardy if natural resources like water are not used wisely when the world's already overburdened population approaches 9 billion and precipitation patterns shift [1].

According to Janney [2], "in the near future, we will have to leverage the same risk management capabilities we have developed for defense in order to harden our world against the increasingly grave threat of climate change. From risk management to disaster readiness, decision support platforms,

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supply chain tools, autonomous sensing, critical communications, and mobility planning, our civilian societies have much to learn from those we trust to defend them".

The systematic integration of the environmental, social, and economic domains into a long-term, dynamic viewpoint is the fundamental contribution of the sustainability approach to security challenges. National, regional, and global societal security and well-being are only possible when the biophysical, economic, and social domains all function within reasonable bounds. When boundaries in one sphere are seriously and persistently broken, it is likely to cause problems for the functional stability of the other two realms. Accordingly, it is illogical to think about the environment and how it affects security in a vacuum, divorced from the other two spheres of human endeavor [3–11]. The globe is dealing with a number of issues, including uncontrolled migration, economic marginalization of a sizeable portion of the population, rising energy and food costs, excessive income disparity, and climate change [12]. Extreme political alternatives and national political crises may result from these processes, which might then have an impact on global political discourse, stability, and peace. For the foreseeable future, national security and sustainability policies will be formulated within this framework.

This landscape generates the issues of sustainable financial and economic management at the national level, in public administration activities, and the impact of sustainable finance and economics on human capital development and national security becomes a matter of high importance.

2. Literature Review

The systematic integration of the environmental, social, and economic domains into a long-term, dynamic viewpoint is the fundamental contribution of the sustainability approach to security challenges. The notion of sustainable development, which emphasized that human societies must survive and provide their needs without endangering the existence of future generations, may have contributed to the formation of the concept of a sustainable economy [13]. One of the global driving forces near the end of the 20th century was an increasing awareness of an impending ecological disaster, which gave rise to the idea of "sustainable development" [14]. As a result, the late 1960s and early 1970s saw the spread of several theories on development, growth, sustainability, and progress. In the 1980s, the idea gained greater traction and was used more often. Sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs", according to the 1987 World Commission on Environment and Development (WCED) [15]. Hence, the ongoing tension between economic growth and environmental protection dates back to the 1980s. Thus, in order to achieve sustainable economic growth, communities must establish the prerequisites for individuals to work in high-quality occupations that boost the economy without endangering the environment [16]. The shift to a sustainable economy implies that all stakeholders must comprehend the three pillars of sustainability: environmental, social, and economic sustainability [17]. Human and industrial activities may be reformed toward a more sustainable economy through organizational development, human capital development, and the establishment of green industries and supply chains.

Meanwhile, in the literature, it is highlighted that climate change and human capital are strongly interrelated [18]. Although it is more difficult to measure, climate change has significant and long-lasting effects on humankind. Climate shocks cause millions of people to be displaced, disrupt health and educational programs, and restrict people's capacity to make a living. Slow onset climatic changes may not generate headlines, but they are no less harmful. Crop yields are decreased by drought and desertification, which raises the rate of hunger and drives many people into poverty. Due to job loss and children's lack of access to quality healthcare and education, the poverty cycle might persist a long time [19].

In the global economic environment, several social and environmental problems have been brought about by the present systems of production and consumption. Many policymakers worldwide are concerned about these challenges. Making national and international economies more sustainable is the main goal of the sustainability policy framework. The development of human capital is essential to

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economic change. One of the most important responsibilities of public administrations nowadays, within the endeavor to preserve national security, is the creation of a national development plan that incorporates the economic, social, and environmental pillars of sustainability for an efficient transition into a sustainable economy.

The human capital development plan, according to Atiku and Lawal [20], is a comprehensive method for investigating the four greens - green locations, green talent, green savings, and green opportunities - for a more sustainable economy. In light of this, green savings might be attained by enticing organizations, households, communities, and governments to reduce expenses and conserve energy by employing renewable resources, as well as by minimizing or recycling trash in order to address financial, social, and environmental problems. Green prospects might be capitalized on by expanding "Cleantech" businesses, generating green revenue streams and jobs through the enhancement of business processes for the creation of resource- and pollution-saving goods and services. The cultivation of green talent is also essential for providing the world's most important green economic resource for long-term, sustainable economic growth, since it involves funding basic research, education, and technical innovation. Action plans are necessary for green spaces in order to promote eco-smart development, which preserves and improves the built and natural environments by utilizing multimodal transportation networks, sustainable infrastructure, and green energy sources in addition to low-impact, resource-efficient design. Communities and regions thus become more desirable, livable, healthy, vibrant, prosperous, and productive [21].

The increasing attention to the security implications of international investment is primarily driven by a number of factors, including a greater diversity of economies as sources of investment, the participation of State-guided investors who may pursue the strategic objectives of their sponsors, a decline in the consensus on values and rules for international economic interactions, and concerns about the security of supply of essential products and services [22].

It should be mentioned that the 1987 Brundtland Report promoted the use of sustainability in state security. In addition to defining the significance of sustainable development for regional security, the paper highlighted the perils of unrestrained growth and the repeated failures of several Western development initiatives, which had enriched dishonest officials and overfished or endangered renewable resources. The components of human security were delineated in the Human Development Report, which was released in 1994 by the UN Development Program. The national security community was urged to examine how human security contributes to the establishment of state stability by this study, which defined state security in terms of human security (freedom from want and fear). A new paradigm for examining state security, failed states, and the underlying circumstances that terrorists attempt to exploit was made possible by the notion that state security was tied to environmental sustainability and human security. Sustainability of a state's resource base was vital for state governments to satisfy demands imposed on the political system. In their quest to preserve regional security, authorities also have sustainability as a goal.

American scholars contend that there are two levels at which U.S. national security should be viewed: first, through the lens of sustainability. In order to ensure the freedom, vitality, and security of the United States, national security policy should be informed by it. This includes directing the policies that provide access to the resources required to maintain the country's economic and defense capabilities [23]. In this situation, the following queries are raised: Is China restricting what the United States and its allies may purchase on the open market by buying up the available petroleum and strategic mineral deposits? If American magnet producers are compelled to relocate to China in order to secure access to heavy rare earth element sources, would defense technology be lost in the process? Will the Horn of Africa's piracy and terrorist activities impede the flow of Middle Eastern oil to Europe and the US? It should also guide how national security components are applied to international security goals at the regional level. The elements of national power should share the goal of ensuring the viability of regional governments that are relied upon to uphold US national security. In Afghanistan, 75% of the population

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is at danger of decertification, and 80% of the population directly depends on natural resources for their livelihood [24].

In order to meet the expectations that the populace is placing on the political system in order to fulfill their aspirations for human security, sustainability is seen as the process of developing resources in a way that guarantees their availability for future generations or activities [25]. Applying sustainability to political institutions and foreign policy might yield fresh perspectives on national security, political evolution, the reasons for state failure, and public support for terrorist groups [26].

Human capital is a widely acknowledged engine of value development and corporate resilience. It encompasses labor practices, diversity, inclusion, and participation, health and safety, and other aspects of sustainability [27]. The conversations focused on the fact that individuals do not have to be helpless victims of climate change if they make the right investments. Education is, in fact, the most important factor in predicting climate-friendly behavior [28], which supports sustainability and, by extension, national security. People who are healthier and more educated are also more resilient, more suited for employment in the green economy, and essential for fostering innovation and climate solutions. The sustainable industries of the future rely heavily on human capital, as they require the skilled labor of well-being individuals.

A workforce knowledgeable in low-carbon technology is becoming more and more necessary as we shift to renewable energy. There is a greater need for these "green skills" than there are capable workers available. Specifically, the Indian government formed the Skills Council for Green Jobs to determine the skills required for building, waste management, renewable energy, transportation, and water management. By including the new green training modules into the National Skills Qualification Framework, the council further increased the legitimacy of these initiatives. In order to identify necessary curriculum modifications and examine ways to develop jobs in renewable energy, the World Bank is collaborating with governments around the Middle East [29]. Figure 1 shows the anticipated number of new green employment in developing economies by 2030.

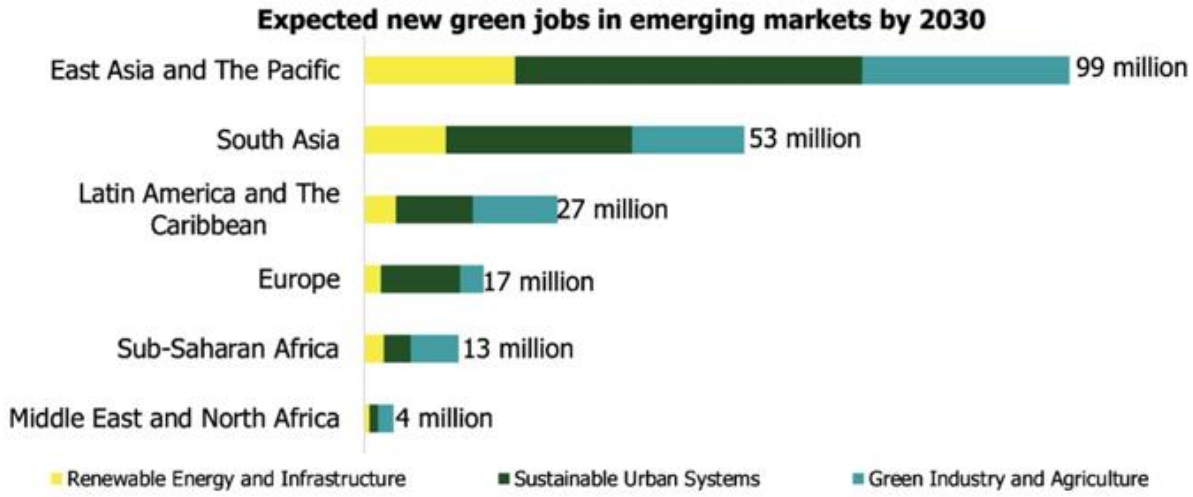

Figure 1.
Expected new green jobs in emerging markets by 2030 [29].

While investing in people is necessary to address climate change, green and sustainable financing methods must also be used. In a world where economic activities are inextricably tied to social and environmental results, understanding sustainable finance is essential. This paradigm gives investors, businesses, and individuals the ability to match their financial endeavors with more general social objectives in addition to offering a route to sustainable economic growth. Mainstreaming sustainable

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finance methods and concepts may be highly beneficial in bringing financial institutions and investments into line with sustainable development.

Fundamentally, sustainable finance is a forward-thinking strategy that seeks to match investments and financial systems with objectives related to sustainable development. It departs from traditional finance in that it views environmental, social, and governance (ESG) considerations as essential to financial judgment. This strategy opposes the conventional emphasis on immediate financial gain and encourages social responsibility and environmental sustainability over the long run [30]. Green bonds, social impact investment, ESG-focused asset management, sustainable banking, and climate finance are just a few of the many activities that fall under the umbrella of sustainable finance. These financial tools and methods are intended to assist enterprises and initiatives that benefit the environment and community, such affordable housing, sustainable agriculture, renewable energy, and healthcare [31]. Sustainable finance aims to actively promote good change in addition to minimizing adverse effects. Its ultimate goal is to establish a more resilient, inclusive, and sustainable economy by establishing a finance system that encourages and supports sustainable activities.

Energy-related infrastructure projects, like all other infrastructure projects, are driven by finance. New financial tools and policies, such as community-based green funds, green bonds, green banks, carbon market instruments, fiscal policy, green central banking, and fintech, are some of the key components of green finance [32].

The need for this adjustment is growing as the impacts of climate change become more apparent and the public calls for action becomes stronger. When it comes to allocating funds to enterprises and initiatives that benefit the environment and society, sustainable financing is essential. Achieving objectives like biodiversity preservation, carbon neutrality, and inclusive economic growth all depend on this strategy.

In response, there are several ways that public administration may support sustainable development. One key strategy is the establishment of green public procurement policies, which entail the use of public procurement to promote ecologically friendly products and services. This might involve taking steps like establishing environmental standards for the products and services that are purchased, encouraging sustainable patterns of production and consumption, and supporting the development of innovative sustainable technology. Research indicates that sustainable development may be greatly impacted by green public procurement. According to research by the European Commission, the public sector accounts for roughly 14% of the European Union's GDP and is responsible for around 19% of its greenhouse gas emissions [31]. Many experts underline that governments may lessen their environmental effect and support sustainable development by implementing green public procurement rules.

3. Research Methodology

The synthesis of structural-functional and synergetic paradigms was used as a methodological tool in the study, the application of which ensured the study of processes of ensuring security through sustainable development of society. The theoretical basis of research is the theory of security, the concept of sustainable development, the theory of the relationship between security and sustainable development, as well as provisions of the theory of public management in the context of global challenges. In the process of the conducted research, methods of systemic, complex, and logical approaches were used in the work.

4. Results and Discussion

It should be noted first that governments might choose to integrate sustainability principles into policy-making in order to attract sustainable financing for development, given the relationships that are taken into consideration between sustainable finance, sustainable economy, human capital, and national security. Since they are known to have lower interest rates, the introduction of sustainable bonds, often known as "green bonds", specifically represented the first step in guiding the African Continent towards

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the development of resilient markets and practical adaption measures [33]. The opportunity exists for developing nations, whose emissions are typically significantly lower than those of developed nations, to take use of these more affordable loans in order to meet their climate targets. According to Bloomberg Green, since the first green bond was issued in 2008, bonds totaling more than $1 trillion have been issued. The fact that Wall Street banks and their European equivalents are active players in this industry was also emphasized. Usually, the funds raised by these bonds are allocated only to certain emission-reducing projects, such as building an emission-reducing solar power plant [34].

Sustainable finance-focused policy objectives may also be seen in the broader historical framework of policy change and reform. The interventionist, Keynesian forms of policy have been replaced globally since the 1980s by a range of innovative policies based on New Public Management theory and, more recently, New Public Governance theory [35]. It suggests that a large number of economies deliberately implement policies designed to promote sustainable development.

Furthermore, it has been determined that policy players are in a position to have a major influence on sustainable development at this critical juncture. Policy actors can help encourage decision-makers or government officials to adopt sustainable finance, which will in turn provide incentives for investors to enhance the supply of sustainable financing. Furthermore, it was determined that policy actors might construct a legislative agenda to standardize ESG performance measurements and assist in creating investment instruments and fund structures that are suited to attract sustainable financing [36].

However, by fostering an atmosphere that encourages sustainable innovation and attracts investment, policy actions may either be a sustainable investment or a tool to promote sustainable growth. Nicholls [35] provided an explanation of two sustainable financing levers. The first lever focused on the direct involvement of policymakers in the market through transactions that boost the supply side of capital and investments that take debt or equity positions in sustainable funds. It was suggested that policies may function as indirect investments on the second lever. These could take the form of low-interest subordinated financing or guarantees, which can be employed as co-investment or catalytic capital.

In addition, investments in human capital are investments in climate change, as stated correctly by the World Bank [29]. The organization's most recent policy brief, "How to Protect, Build, and Use Human Capital to Address Climate Change", explains how putting money into human capital helps people become more resilient to the effects of climate change and gives them the tools they need to find answers. The policy paper gives a thorough examination of how climate change affects people and offers five recommendations for more effective investments in both people and the environment: Social safety nets protect people and foster resilience;2) Enhance health and education services' readiness and resilience;3) Invest in high-quality education to educate students for climate action;4) Skill development to prepare the workforce; and5) Empower individuals to take advantage of green career possibilities. Investing in people is necessary to find solutions to climate change. For nations that are already adjusting to new and more frequent climate dangers, social safety nets and robust health and education services are frequently critical expenditures. Jobs, skill development, and education are crucial investments for the world's green economy.

According to Soto [37], there is a long-term correlation between the sustainability of the environment and the stock of high human capital, just as there is a correlation between the growth of green economies' socioeconomic practices and sustainability. The study points out that supporting green businesses and making educational investments can be effective strategies in the battle against climate change and in favor of environmental sustainability. Policymakers may support long-term economic and environmental health and hence directly contribute to national security by prioritizing investments in sustainable technology and renewable energy. Furthermore, Soto's research indicates that fostering education in nations with high pollution levels can help people acquire the information and abilities required to adopt sustainable behaviors and technology. In the end, these initiatives can lessen their negative effects on the environment while raising revenue, productivity, and social

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circumstances. Therefore, it is clear how sustainable financial and economic public administration affects the development of human capital and how that affects national security.

Public administration plays a crucial role in advancing sustainable development. It is the duty of governments to make sure that programs and policies are created in a way that promotes sustainable development.

The term "sustainable public management" first surfaced in the second decade of the twenty-first century. According to this theory, management is the art of maximizing the value that may be obtained from people and natural resources [38]. In this context, sustainability refers to the management of natural resources as well as the future of the industry, the quality of human existence in general, society as a whole, and the natural resources that are accessible. The capacity to make decisions, strategy, creativity, sufficient tools, long-term vision, transformative leadership, and vision are the essential components of this sustainability. The public manager needs to be extremely proficient in managing the following four forms of capital: financial, human, environmental, and technological. Indeed, these are the skills needed for sustainable economic and financial management.

A significant part of pushing the expansion of the sustainable finance and economy may be played by policy players. Initially, policy actors have the potential to facilitate the implementation of sustainable finance by offering incentives to investors to augment the supply side of this type of capital. Secondly, the creation of investment instruments and fund structures tailored to the needs of sustainable finance can be encouraged by policy actors. Third, those in charge of policy might establish a regulatory agenda aimed at standardizing ESG performance metrics. In addition to these three goals, policy actors may help create the pipeline of investable agreements and projects by sharing information and developing capacity. This will help increase the demand side of investable ESG initiatives. Additionally, governments have the option to actively invest in sustainable financing models by using their own commissions money. Lastly, in terms of creating the framework for a sustainable market more broadly, policy actors might actively invest in intermediary funds and support thorough research that serves as the foundation for the growth of the sustainable finance market.

Of all the definitions of sustainability, a straightforward one could be more appropriate and relevant. The definition is as follows: to continue operating in spite of an adverse internal or external environment by consistently choosing the route of justice, progress, and balance. Despite the fact that this description could appear overly inclusive, it includes a number of fundamentally concealed components that must be made explicit, comprehended, and mastered [39]. These components consist of: (a) having a thorough understanding of the operation's mission, values, goals, and surrounding environment; (b) being skilled communicators with shareholders, suppliers, and most importantly, employees; (c) having a clear and practical vision of the entire operation, including short- and long-term goals; (d) being able to promote an ethical code that would uphold accountability, the rule of law, equity, and fairness; (e) emphasizing the significance of human capital management, development, and motivation; and (f) advocating for the undeniable value of ongoing training and change in order to maximize the operation's productivity. In order to establish and achieve sustainable public administration, all of these components are necessary, which helps to ensure national security. Furthermore, the sustainability of public management is critical to both its performance and its existence.

Nonetheless, one should be aware of the unique aspects of sustainable public administration that vary by nation and area. Specifically, policy agendas centered around sustainable finance are likely to remain dependent on the political, economic, and cultural traditions of a particular country or region, even in the face of global shifts in the overall emphasis of public policy. For instance, the European Union's long-standing history of a social economy provided by cooperative and mutual organizations has influenced the legislative agenda surrounding sustainable finance as an adjunct to the government and social sector. On the other hand, the United States' more individualistic and free-market cultural heritage has presented sustainable finance as a fresh chance to generate higher returns on invested money. In Asia, policy frameworks also tend to be similar in polarity. Japan and Singapore, for instance,

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have policies that essentially mirror a US model, but India has certain policies that resemble a European model due to the significance of cooperatives in the region's economy. Of course, these divisions are oversimplified, and each nation and area will have unique policy framework subtleties of its own. The differences in macroeconomic policy goals between industrialized and developing nations will be especially noticeable in this regard. However, a conceptual model of sustainable public administration competences in frames of presented discussion still can be built (see Figure 2).

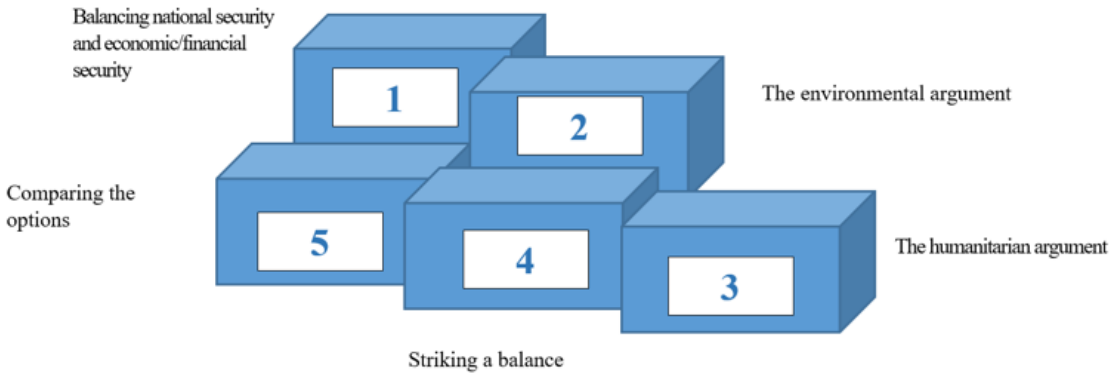

Figure 2.
A conceptual model of sustainable public administration competences.

According to Smiljanic [40], the Copenhagen School's (CS) idea of (extended) sectors of security is best used from a sustainability viewpoint. The "new sectors" of security in the CS concept are perhaps represented by the sustainability viewpoint, which takes into account the three interdependent complex systems that make up the social, economic, and environmental spheres. According to the author, there was a need to go beyond the idea of competing nations when it came to defining security and dangers, as well as to expand the definition of sources of "serious interference" in our "internal life". Earlier, Buzan et al. [41] claimed that "security is about survival. It occurs when a problem is framed as an existential danger to a defined referent object, which is typically but is not always the state, which includes the government, territory, and society. The unique characteristics of security risks warrant the application of extreme measures in their mitigation. As a result, Buzan et al. recommend expanding and diversifying the security framework's focus. Specifically, Buzan wanted to provide a "broader framework of security" that included ideas like the sociological, economic, and environmental sectors of security that were not previously seen to be a part of the security framework [43]. This illustrates how sustainability is related.

Arguably, every shift in the mainstream attitude to national security is directly associated with the strategic culture. According to Thomas Mahnken, strategic culture is defined as "that set of shared beliefs, assumptions, and modes of behavior, derived from common experiences and accepted narratives (both oral and written) that determine appropriate ends and means for achieving security objectives" [42]. This culture shapes a group's collective identity and relationships with other groups. A state's policy and other strategic documents are a direct result of the strategic culture that is created by the way people behave and are influenced by the prevailing worldview. To put it another way, political discourse is constrained by the dominant worldview, and discussions about desired futures take place within the framework of values and ideas that are prevalent in a society at a particular moment [45]. As a result, various civilizations may have different definitions of sustainability, and within a single community, different perspectives may be held at different points in time. The constructivist theory of international relations has placed special emphasis on the social or cultural dimension. Constructivists mainly aim to show how fundamental elements of international relations are socially produced, in contrast to the presumptions of neorealism and neoliberalism. One of the constructivists, Alexander Wendt, posed the rhetorical question, "How egoistic states might transform the culture of the

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international system from a balance of power to a collective security system", because there are many parallels between sustainability practices and principles and the concept of a collective security system (rather than alliances) [44]. Obviously, any transformation will involve a paradigm shift which cannot be done with various approaches that include new practices and different leadership. Wendt contends that in a world that is socially constituted, identities and corresponding interests exist. "Actors do not have a 'portfolio' of interests that they carry around independent of social context; instead, they define their interests in the process of defining situations" [44] because identities are the foundation of interests. This concept demonstrates the value of mature leadership in handling security-related issues and developing public administration organizations' overall strategies.

5. Conclusion

In conclusion, developing the skill of morally integrating strategies amongst social, financial, environmental, and human capitals is essential to the sustainability of public administration. Leaders should prioritize their own personal growth and embrace the notion of sustainability. It is not about handling problems in a normal manner; rather, it is about pursuing unending conquest, progress, and future preservation.

In addition to newly realized threats from state (Russia, China, Iran) and non-state actors (ISIL, Al-Qaeda), the new security issues are also a result of long-term unsustainable behaviors that weaken a state's defenses against external threats and increase its susceptibility to "internal" dangers. As a collection of ideas or methods, sustainability may be used at several stages, from tactical to strategic, the latter of which is also the most crucial. This environment makes sustainable finance and economics, together with ESG-based human capital policies, extremely important.

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