AN ANALYSIS OF THE LINK BETWEEN FINANCIAL LITERACY AND ENVIRONMENTAL CHALLENGES

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Abstract
This study analyzes the under-researched yet crucial link between the financial literacy of the population and the country's acute environmental problems, using Uzbekistan as a case study. While the academic literature increasingly recognizes the link between financial literacy and environmentally responsible behavior, how this relationship manifests in the specific socio-economic context of a country like Uzbekistan, which is transitioning to a "green economy," remains underexplored. The core problem of the research is that Uzbekistan's "green" strategies rely heavily on financial instruments (loans, subsidies), but the population's financial behavior, low trust in the formal financial system, and level of financial literacy may pose a serious obstacle to the effectiveness of this policy. Using a qualitative synthesis methodology of reports from international organizations and existing academic literature, this article reveals the deep gap between the government's "green finance" policy and the real financial behavior of the population. The main findings show that a large part of the population saves informally, distrust in formal credit is high, and the initial cost of "green" technologies remains a barrier for many, even with subsidies. In conclusion, integrating environmental content into financial literacy programs is not just an additional measure but a fundamental strategic necessity for Uzbekistan to achieve its sustainable development goals. This approach serves to build the knowledge and skills necessary for the population to actively participate not only in their personal financial well-being but also in ensuring the country's environmental sustainability.

Keywords: Financial literacy, green economy, behavioral economics, green finance, Uzbekistan, policy implementation, sustainable development.

Introduction
Against the backdrop of global environmental crises, particularly climate change, resource depletion, and biodiversity loss, achieving sustainable development has become humanity's most urgent task. In this process, the role of financial literacy in shaping environmentally responsible behavior is increasingly important. Recent academic research indicates that financial literacy is not merely a tool for personal financial well-being but is becoming a critical factor in achieving environmental sustainability (Jyrwa & Singh, 2022; Salahodjaev & Sadikov, 2025). Financially literate individuals possess skills in long-term planning, risk assessment, and informed decision-making, which enables them to make environmentally responsible financial

decisions, such as making "green" investments or purchasing energy-efficient technologies (Jayasinghe, 2025).

However, several significant gaps exist in the current academic literature. First, the majority of studies examining the link between financial literacy and environmental behavior have been conducted in developed countries. How this relationship manifests in countries with transitional economies like Uzbekistan, where financial inclusion and trust in the formal financial system are low, has not been sufficiently studied. Second, existing analyses of Uzbekistan's "green economy" transition strategies are mostly at the macroeconomic and policy levels (President of the Republic of Uzbekistan, 2019, 2022), overlooking individual-level financial behavior and decision-making mechanisms. Third, while behavioral economics theories have great potential for explaining the irrational aspects of environmental decision-making (Gowdy, 2008; Shogren & Taylor, 2008), these theories have been scarcely applied to the analysis of Uzbekistan's "green" policy.

This study aims to fill these gaps. Its central problem is as follows: while the government of Uzbekistan attempts to accelerate the transition to a "green economy" through financial incentives (loans, subsidies), to what extent do the population's level of financial literacy, distrust in the formal financial system, and traditional financial behaviors hinder the success of this policy? By analyzing the complex relationship between financial literacy, behavioral economics, and environmental policy in the context of Uzbekistan, this article seeks to fill the gap in the existing academic literature and develop practical recommendations for policymakers.

Methodology

This study employs a qualitative synthesis approach. The analysis involves examining existing academic literature, reports from international organizations (World Bank, International Finance Corporation, Asian Development Bank, UN), and policy documents of the Government of Uzbekistan to identify connections and contradictions among them. The theoretical framework of the research is based on two fundamental approaches: the Theory of Planned Behavior (TPB) and Behavioral Economics.

The Theory of Planned Behavior (TPB) posits that an individual's intention to perform a specific behavior is shaped by three main factors: attitude, subjective norm, and perceived behavioral control (PBC) (as cited in Ajzen, 1991; Khan, 2024). In the context of this study, the PBC component is particularly important as it includes the financial knowledge (understanding loan terms, calculating the benefits of subsidies) and financial capabilities (access to formal financial services) necessary to adopt "green" technologies. Research shows that attitude and perceived control significantly influence green investment intentions (Khan, 2024; Aliedan et al., 2023).

Behavioral Economics challenges the "rational actor" model of traditional economics, showing that people often make systematically irrational decisions under the influence of psychological factors such as bounded rationality and cognitive biases (Kahneman & Tversky, 1979; Gsottbauer, 2014). This theory helps explain why people are reluctant to

adopt energy-efficient technologies even when it is economically beneficial. Factors like the status quo bias can prevent the abandonment of traditional but inefficient practices (Bento, 2024). Furthermore, choice architecture—the way choices are presented—can significantly influence behavior, for instance, by making "green" options the default (Sunstein & Reisch, 2014).

By combining these two theoretical approaches, the study analyzes the extent to which the effectiveness of "green" policy in Uzbekistan depends not only on financial incentives but also on the population's financial literacy (PBC) and psychological decision-making characteristics (behavioral economics).

Results

A synthesis of existing academic literature and reports reveals significant problems and contradictions in Uzbekistan's path to a "green economy" across three main areas: the population's financial landscape, the economic burden of environmental problems, and the gap between policy and practice.

The population's financial landscape and behavior. The level of financial inclusion in Uzbekistan remains low. According to the International Finance Corporation (IFC), only 36% of adults have an account at a formal financial institution (Varma et al., 2020). This figure is even lower in rural areas (27%). Most importantly, informal mechanisms dominate the population's financial behavior: 78% of respondents save their money at home, while only 10% use formal financial institutions (Varma et al., 2020). Informal borrowing (36%) is also widespread. The main reasons cited for not using formal credit are high interest rates and a lack of trust in the system (Varma et al., 2020). A World Bank study shows that many prefer to save through physical assets like livestock, indicating a preference for short-term, tangible assets over long-term financial planning (Babasyan et al., 2023). Furthermore, an Asian Development Bank report notes that religious objections to conventional, interest-based financial products may also be a barrier to financial inclusion (ADB, 2022).

The economic burden of environmental problems. Uzbekistan faces serious environmental challenges that lead to significant economic losses. Water scarcity is one of the most acute problems. Agriculture consumes about 90% of the country's water resources, and climate change is expected to worsen this situation (World Bank, 2025). The World Bank predicts that a reduction in water resources due to climate change could lead to an 11% drop in the regional GDP of Central Asia (UN). Land degradation is another serious issue, causing annual agricultural production losses of $2 billion in the region (ADB, n.d.) Sand and dust storms from the Aral Sea disaster cause an estimated $44.2 million in damage to the economy of Karakalpakstan alone each year (World Bank, 2024). Additionally, the high energy intensity of Uzbekistan's economy costs the country 4.5% of its GDP annually (UNDP).

"Green" policy and financial instruments. In response to these problems, the Government of Uzbekistan has undertaken firm commitments to transition to a "green" economy (President of the Republic of Uzbekistan, 2019, 2022). Within this strategy, a range of financial instruments, including "green" loans and subsidies, are offered to the public and entrepreneurs. For example, under the "Solar House" program, subsidies are paid for electricity sold to the grid, and those who install solar panels are exempt from property and land taxes (Trend News Agency, 2025; Times of Central Asia, 2023). Subsidies and tax incentives are also available for farmers who implement water-saving technologies like drip irrigation (CGIAR, 2020; Agroworld, 2025).

Discussion and Conclusion

The analysis of the results shows a significant gap between Uzbekistan's "green" policy and the real financial behavior of its population. This gap highlights a void in the existing academic literature and may pose a serious obstacle to the transition to a green economy.

The gap in the literature and the contradiction in policy. International studies confirm a positive link between financial literacy and environmentally responsible behavior (Jyrwa & Singh, 2022; Salahodjaev & Sadikov, 2025). However, these studies do not account for the specific conditions in Uzbekistan. In Uzbekistan, the government relies on formal financial channels ("green" loans, subsidies through banks) to promote the adoption of "green" technologies (President of the Republic of Uzbekistan, 2019). Yet, a large part of the population does not use these channels, distrusts them, and prefers to conduct financial transactions informally (Varma et al., 2020). This is a fundamental disconnect between policy and practice.

The "capability trap" and behavioral barriers. Although the subsidies offered by the government may seem attractive on paper, they may be unattainable for many in practice. For instance, despite the availability of subsidies for water-saving technologies, their adoption rate remains low. The reason is that even with a subsidy, the initial investment is too high for small farmers (Zavgorodnyaya-Scrutton, 2024). This creates a "capability trap": assistance is available, but the most needy cannot access it. Here, the concept of Perceived Behavioral Control (PBC) from the Theory of Planned Behavior plays a crucial role. A farmer may understand the benefits of the technology (positive attitude) but will not adopt it if they lack the financial means (low PBC). Furthermore, from a behavioral economics perspective, there are deep-rooted cultural and psychological barriers among farmers. Studies show that farmers may not consider "water saving" their responsibility, may view high water use as a sign of social capital, and may wait for the successful experiences of other farmers before making a decision (Zavgorodnyaya, 2017; Zavgorodnyaya-Scrutton, 2024). Such cognitive biases and social norms are barriers that are difficult to change with financial incentives alone.

This analysis identifies several directions for future research. It is necessary to conduct field research (surveys, interviews) in Uzbekistan to identify the behavioral factors (e.g., trust, social norms, cognitive biases) that influence the adoption of "green" technologies. It is also important to experimentally evaluate the impact of various "nudge" mechanisms, such as changing the choice architecture, on the adoption of "green" financial products.

Practical policy recommendations include:

1. Incorporate topics such as "green finance", "green investments," and environmental risk management into existing financial literacy programs. This will teach the population not only how to manage money but also how to invest it for a sustainable future.

2. Create financial products tailored to the real needs and capabilities of the population. For example, develop "green micro-leasing" or "green micro-credit" programs for small farmers that require low collateral and ease the initial investment burden. Also, explore the possibility of offering "green" products based on Islamic finance principles, considering the religious beliefs of the population.

3. In addition to financial incentives, use "soft" measures that influence behavior. This includes disseminating locally-tailored information, organizing "peer-to-peer" programs to showcase the experiences of successful farmers, and creating a choice architecture that facilitates "green" choices.

In conclusion, the success of Uzbekistan's "green economy" transition strategy is not only a technological and financial issue but, fundamentally, a behavioral one. To bridge the gap between policy and practice, it is necessary to increase the financial literacy of the population, understand their decision-making psychology, and design financial products and incentive systems accordingly.

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