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Activating the Purposes of Islamic Sharia through the Regulations of the National Center for the Prevention and Control of Plant Pests and Animal Diseases in the Kingdom of Saudi Arabia: A Review

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ABSTRACT

Plant and animal diseases may quickly spread across limits, presenting serious challenges to crop production, human health and environmental stability. Understanding how Saudi Arabia's regulatory system connects with these wider goals is essential for building successful risk management methods. The findings of this study reveal that the regulations of the National Center for Plant Pest and Animal Disease Prevention and Control in Saudi Arabia are deeply rooted in the principles and goals of the law. These regulations focus on safeguarding life, property and the environment. The Center's strategies for prevention and control aim to safeguard health by monitoring diseases in animals and plants and implementing measures like quarantine and vaccination. This approach contributes to the goal of protecting life. The Center also embraces technologies and sustainable agricultural practices that reduce reliance on pesticides, promoting environmental preservation and sustainability. Data analysis shows that the Center's initiatives align closely with law objectives, striking a balance between growth, public health and environmental protection. Additionally, enhancing research efforts and international collaboration can further improve these endeavors to achieve sustainable outcomes.

Key words: Activating, Animal diseases, National center, Plant pests, Regulations.

Islamic Sharia encompasses a set of values and principles designed to promote the well-being of individuals and society across aspects of life. One critical area it focuses on is the prevention of plant pests and animal diseases which pose risks, to health and economic stability. The regulations established by the National Center for Plant Pest and Animal Disease Prevention and Control in Saudi Arabia play a role in safeguarding the community and environment. This center plays a part in enforcing laws and rules to curb the spread of pests and diseases aligning with the Purposes of Islamic Sharia. By organizing measures, it aims to uphold life, property and future generations all central goals pursued by Islamic Sharia.

This study delves into how sharia purposes were put into action through the operations of Saudi Arabias National Center, for Plant Pest and Animal Disease Prevention. It explores how these goals are realized through existing policies and procedures impacting health, environmental welfare and animal security within society. The purposes outlined by Islamic Sharia signify the targets that Islamic law aims to achieve for the benefit of individuals and society. The goals outlined here have an impact, on shaping laws and legal systems to uphold fairness, stability and sustainable progress. When it comes to incorporating Sharia Purposes into systemic laws the focus is on striking a balance between rights and responsibilities while promoting economic equity.

The importance of Sharia purposes in law becomes evident in their goal of fostering justice through regulations that uphold fair allocation of rights and duties. Justice is a principle in law permeating all facets of Islamic legislation (Al-Shatibi, 2022; Al-Sherbini, 2022). These objectives also work towards upholding dignity and safeguarding rights ensuring that people's right to life, property and freedom are protected. Thus, elevating humanity as stewards on earth (Al-Saeed, 2021; Abu-Zahra, 2020; Al-Mutairi, 2023; Al-Qarni, 2021). Sharia Purposes refer to the underlying purposes and wisdom behind Sharia legislation aiming to promote the well-being of people in both this life and the hereafter (Elfeky *et al*., 2024). Collaborating closely with universities and research institutions the center strives to advance knowledge in this domain (Al-Rifai, 2022; Elbourhamy *et al*., 2023). Furthermore, the center is

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committed to strengthening collaboration in plant pest and animal disease prevention by participating in global conferences and seminars while exchanging insights with similar organizations worldwide (Elfeky *et al*., 2023). The research issue underscores the increasing significance of Sharia Purposes in shaping policies and regulatory frameworks across sectors to promote well-being in alignment, with Islamic principles.

The National Center, for Plant Pest and Animal Disease Prevention and Control in Saudi Arabia, plays a role in safeguarding health ensuring food security and protecting the environment. The focus of this study is to explore how Sharia principles impact the centers operations and effectiveness. The main question at hand is; To what extent do Sharia principles shape the structure of the National Center for Plant Pest and Animal Disease Prevention and Control in Saudi Arabia and how can this influence be assessed in achieving the goals of preserving life, property and the environment?

The objectives of this research are as follows:

- Explaining the concept and significance of Sharia principles.
- Examining the center's contribution to fulfilling these principles.
- Offering suggestions to enhance the implementation of Sharia Purposes through the center's policies.
- Helping identify challenges related to plant pests and animal diseases while promoting collaboration, with the center to adhere to its guidelines.

Research approach

To meet the research goals a combination of analytical approaches was utilized, which involved.

Descriptive approach

- Gathering information and data from current scholarly sources and publications regarding Sharia Purposes and the National Center's role.
- Detailing the protocols and practices employed by the National Center, for Plant Pest and Animal Disease Prevention and Control.

Analytical approach

- Examining the gathered data and information to elucidate how Sharia Purposes are put into action through the initiatives of the National Center.
- Utilizing analysis to underscore the influence of implemented policies, on advancing Sharia Purposes.

Theoretical framework

The legal framework is based on the Sharia principles, which aim to enhance the welfare of people and society by protecting religion, life, intellect, offspring and property. These principles are applied in aspects of life including efforts to prevent plant pests and animal diseases. Consequently, the National Center, for Plant Pest and Animal Disease Prevention and Control in Saudi Arabia plays a role in upholding these principles through its policies and actions (Ministry of Environment, Water and Agriculture, 2022). Preserving life is a Sharia principle that involves ensuring the safety and well-being of individuals from harm. The National Center for Plant Pest and Animal Disease Prevention and Control contributes significantly to this objective by:

Monitoring animal diseases

The center actively monitors the spread of animal diseases that pose health risks, such as influenza and Rift Valley fever. It implements measures like vaccination campaigns and quarantine procedures for animals to reduce disease transmission to humans (Al-Saeed, 2021). Implementing practices for managing animal health is crucial in controlling diseases, among animals thereby enhancing health protection and aligning with the Sharia principle of safeguarding life (Elbyaly and Elfeky, 2022). Preservation of property is another Sharia principle focused on protecting individual's resources from harm or deterioration.

The National Centers organization contributes to achieving this goal through two aspects.

Protecting agricultural crops

The center is responsible, for monitoring the spread of plant pests and developing strategies to combat them thereby safeguarding crops from damage and loss. These initiatives ensure production enhance food security and support the sector in the country.

Reducing economic losses

By preventing animal diseases that can affect livestock the center helps minimize losses resulting from animal deaths and disease outbreaks. This also aids in improving the stability of farmers and livestock breeders (Al-Rifai, 2022). The environment serves as the space where humans live including elements (both living and nonliving) that interact with humans and are influenced by their actions (Al-Suhaibani, 2020). Preserving the environment is a Sharia objective aimed at protecting resources and environmental integrity from pollution and degradation.

The National Center plays a role in achieving its objectives by focusing on:

Preventing agricultural pollution

The center is tasked with implementing farming methods that reduce the use of pesticides and harmful chemicals that can damage the environment. These efforts help preserve ecosystems and maintain quality.

Promoting farming practices

The organization highlights the importance of agriculture, in conserving nature and optimizing resource utilization without causing harm, encouraging the promotion of agriculture. Implementing eco-friendly pest control techniques to reduce harm (Al-Mutairi, 2023).

Analysis of system provisions

Article one (Definitions) overview

In the article of guidelines, for the National Center for Plant Pest and Animal Disease Prevention and Control in Saudi Arabia, some definitions elucidate the terms and ideas relevant to the tasks and procedures of the center. These definitions outline the range of work conducted by the center and the actions it takes to accomplish its objectives which are in line with Islamic Sharia principles particularly focusing on preserving life. Article 1 contains definitions like:

- **Plant pests:** Any living organism that poses a threat to plants or plant products.
- **Animal diseases:** Any disease, whether noninfectious that affects animals and influences their well-being.
- **Control:** Steps implemented to restrict the spread of pests and diseases.
- **Quarantine:** Measures taken to segregate and manage infected or suspected plants or animals (Al-Khatib, 2022).

Connecting definitions with life preservation objective

The definitions provided for plant pests and animal diseases in Article One shed light on the adversaries encountered in agriculture and animal husbandry. By defining these terms effective strategies can be formulated by the Center for Prevention and Control thus minimizing the chances of disease transmission, from plants and animals to humans. For instance, the control of diseases, like Rift Valley Fever plays a role in reducing the risk of infections thus safeguarding public health (Al-Saeed, 2021). The concept of control encompasses strategies aimed at limiting the spread of pests and diseases. These strategies involve the utilization of pesticides, modern farming methods and quarantine measures. Effective control measures help minimize exposure to plant and animal diseases thereby promoting life preservation. For example, employing methods to combat pests can decrease reliance on chemical pesticides (Al-Rifai, 2022). Quarantine stands out as a measure outlined in Article One. This provision details the protocols for isolating and treating suspected plants or animals. The primary goal of quarantine is to prevent disease transmission to organisms and ultimately to humans. By implementing these protocols the center plays a role, in safeguarding the community against epidemics and contagious illnesses (Al-Mutairi, 2023).

Evaluation of article four (Center goals)

The objectives delineated in Article Four of the center regulations include:

1. Preventing the introduction and dissemination of plant pests and animal diseases.
2. Combating plant pests and animal diseases that impact health and agriculture.
3. Collaborating with authorities to bolster therapeutic initiatives.
4. Developing training programs. Raising awareness among workers, in the agriculture and healthcare sectors.

Aligning goals with the aim of safeguarding life

The primary goal of the center is to prevent the introduction and spread of plant pests and animal diseases. By implementing monitoring and prevention strategies against these threats it contributes significantly to upholding public health standards and ensuring the well-being of the populace (Al-Saeed, 2021). A research study conducted by Bhat *et al*. (2022) emphasized that managing animal health plays a role in curbing animal diseases thereby bolstering public health safeguards in alignment with Sharia principles focused on safeguarding life. The secondary goal of combating plant and animal diseases stands out as another aim for the center. Through this effort, it aims to diminish disease spread that could potentially lead to epidemics impacting health (Al-Rifai, 2022). The tertiary goal involving collaboration with entities such as Health Ministries and Agricultural Departments constitutes an aspect of realizing the center's objectives. This collaborative effort facilitates information exchange, knowledge sharing and crafting prevention strategies, for control measures (Hai and Duong, 2024; Bagga *et al*., 2024; Cheng, 2024; González-González *et al*., 2022; Na and Na, 2024; AlZubi, 2023; Kumar *et al*., 2023a). Effective collaboration improves both treatment capabilities working towards the goal of safeguarding lives through the promotion of health and safety measures (Al-Mutairi, 2023).

One significant aim of the center is to develop awareness and training initiatives. These programs educate individuals, in the healthcare sector on methods to prevent pests and diseases. By enhancing understanding individuals can implement measures accurately thereby reducing disease risks and safeguarding community well-being.

In article five (Centers responsibilities) of the analysis

1- Monitoring and surveillance of plant pests and animal diseases.
2- Execution of pest control programs.
3- Conducting research on pests and diseases.
4- Collaborating with international bodies to enhance prevention efforts.
5- Providing guidance and technical assistance to farmers and breeders.
6- Educating communities on the importance of pest prevention.

Connecting centers responsibilities with property preservation objective

The initial duty of monitoring pests and diseases aids, in the identification of issues that may pose a threat to produce and livestock. Detecting issues enables the center to take steps to prevent them thus cutting down on financial losses,

from crop damage or animal fatalities (Al-Rifai, 2021). By implementing control programs the spread of pests and diseases that can lead to losses in agricultural and livestock sectors is contained. The use of efficient control methods decreases the reliance on pesticides and reduces economic burdens. Conducting research and studies allows the center to devise solutions for tackling pests and diseases. This enhances livestock output while minimizing setbacks caused by damage and illnesses. Research also aids in offering advice to farmers and breeders boosting production efficiency and cutting down costs (Al-Humaidi, 2023). Working closely with local and international authorities facilitates the exchange of information and expertise thereby enhancing the efficacy of measures. Such collaboration leads to outcomes in pest control efforts ultimately reducing burdens through optimal resource utilization (Al-Mutairi, 2023). Offering guidance and technical assistance to farmers and breeders assists them in adopting practices, for prevention purposes. This ultimately leads to decreased losses and enhanced production standards.

The center offers information and technologies to uphold the health of plants and animals leading to improved outcomes (Al-Saeed, 2021). Ongoing awareness regarding the significance of preventing pests and diseases raises community consciousness and minimizes losses due, to the spread of pests and diseases. This awareness brings about a shift in practices. Enhances preventive measures, safeguarding financial resources from harm and wastage (Al-Rifai, 2022). A research study by Kumar *et al*. (2023b) demonstrated that the implementation of control programs notably enhances animal health and agricultural productivity thereby bolstering the stability of farmers.

Evaluation of article six (Centers programs and projects)

Article Six outlines that the center carries out programs and projects with aims such as:

1- Developing pest and disease prevention and control systems.
2- Utilizing technologies for monitoring and surveillance.
3- Collaborating with international authorities on research.
4- Educating communities on environmental conservation importance.
5- Advocating for agriculture practices and proper environmental stewardship.

Connecting projects to environmental preservation goals

The program focusing on developing integrated prevention and control systems emerges as an initiative outlined in the regulations. It plays a role in reducing the reliance, on pesticides and harmful chemicals to the environment. The center relies on biological methods, for pest control to maintain balance and reduce pollution thereby contributing directly to the goal of safeguarding the environment (Al-Dhubhani, 2021; Al-Hammadi, 2023). Utilizing technologies in surveillance aids in the detection of pests and diseases enabling prompt and suitable actions without heavy reliance on pesticides. These technological tools encompass drones and sensing techniques (Johnson and Smith, 2022). Collaborative research fosters the exchange of knowledge and innovative technologies that support conservation. The center collaborates with universities and international research institutions to devise strategies for pest and disease management thereby promoting preservation and aligning with Sharia principles (Al-Saeed, 2023).

Ongoing promotion of the significance of conservation serves to alter behaviors and promote positive practices within communities. Mandated regulations require the center to conduct awareness campaigns and workshops for farmers, as the public to enhance environmental consciousness working towards the goal of preserving the environment (Al-Rifai, 2022). Advocating for agriculture involves implementing farming techniques that safeguard soil health, water resources and mitigate ecological impacts. The center advocates, for agriculture by utilizing fertilizers, crop rotation and advanced technologies to enhance water and resource utilization. Additionally, they focus on creating plant varieties that are resistant, to pests, droughts and diseases.

Practical applications of the center's efforts and how they achieve sharia purposes

Application one: Combating the red palm weevil

The National Center for Plant Pest and Animal Disease Prevention and Control launched a comprehensive program to combat the red palm weevil, one of the most dangerous pests threatening palm cultivation in the Kingdom of Saudi Arabia. The program includes early detection techniques, biological control and raising awareness about the importance of prevention (Al-Humaidi, 2023). This effort has achieved the following Sharia Purposes.

Preservation of life

Reducing the use of toxic chemical pesticides that can harm human health.

Preservation of property

Protecting palm farms from damage, helps strengthen the agricultural economy and maintain an important economic resource.

Preservation of the environment

Using biological control reduces environmental pollution and maintains ecological balance.

Application two: Avian influenza prevention program

The center implemented a comprehensive avian influenza prevention program that includes continuous monitoring

of cases, implementing quarantine measures and applying preventive protocols in poultry farms (Al-Saeed, 2022). This program has achieved the following Sharia Purposes.

Preservation of life

Limiting the spread of avian influenza among humans by preventing the transmission of the virus from animals to humans.

Preservation of property

Protecting the poultry industry from significant financial losses that could result from disease outbreaks.

Preservation of the environment

Reducing the need for unsafe disposal of infected birds, which can pollute the environment.

Application three: Organic farming project

The center launched initiatives to support and promote organic farming, including providing technical and financial support to farmers who wish to transition to organic farming and organizing training workshops (Al-Rifai, 2023). This project has achieved the following Sharia Purposes.

Preservation of life

Producing healthy food free from harmful chemical pesticides.

Preservation of property

Promoting sustainable agricultural production and increasing financial returns from organic products.

Preservation of the environment

Maintaining soil fertility and reducing environmental pollution caused by chemical pesticides.

Application four: Use of modern technology in pest monitoring

The center adopted modern technologies such as drones and remote sensing for accurate and rapid monitoring of agricultural pests (Al-Riyami, 2022; Semara *et al*., 2024). The use of these modern technologies has achieved the following Sharia Purposes.

Preservation of life

Reducing direct exposure to harmful pests and pesticides.

Preservation of property

Improving the efficiency of pest control and reducing costs associated with manual monitoring.

Preservation of the environment

Using technology reduces the need for intensive pesticide use, thereby protecting the environment.

The chart above shows instances of the actions taken by the National Center, for Plant Pest and Animal Disease Prevention and Control in Saudi Arabia highlighting how these actions align with the goals of Sharia law (Fig 1).

Observations

Each initiative by the center contributes to Sharia Purposes in ways. The diverse bars on the chart symbolize the center's activities with each group of bars indicating how each initiative aligns, with the three core Sharia Purposes.

The chart above showcases real-life instances of the initiatives undertaken by the National Center, for Plant Pest and Animal Disease Prevention and Control in Saudi Arabia highlighting how these endeavors align with Sharia principles related to safeguarding life, property and the

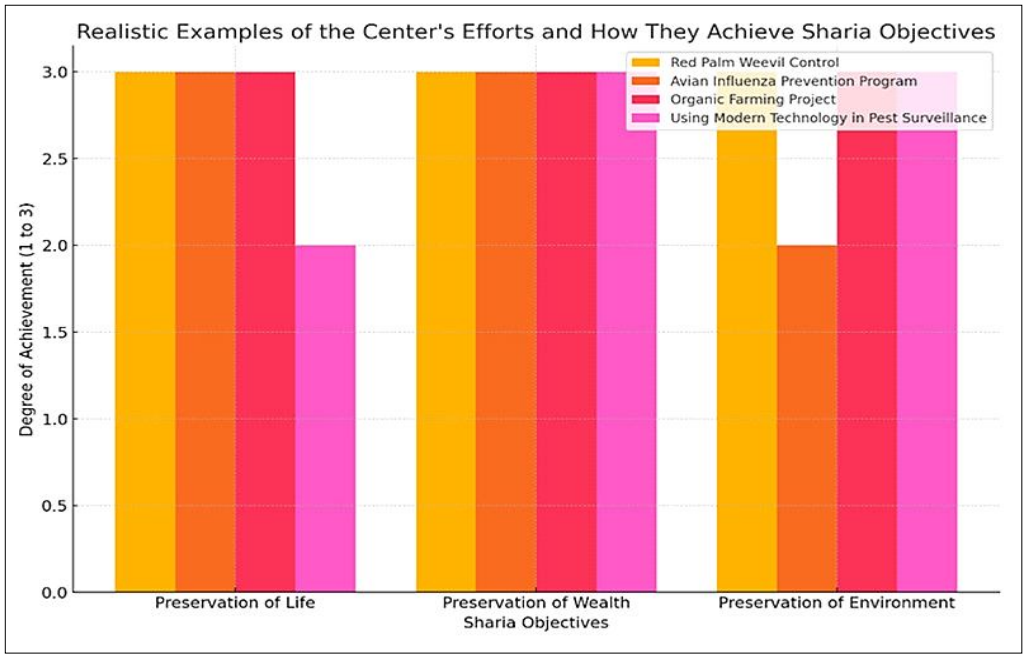


Fig 1: Instances of the actions taken by the National Center.

environment (Fig 2). Each initiative undertaken by the center reflects varying degrees of adherence to Sharia principles. For example, the "Avian Influenza Prevention Program" effectively upholds both life and property preservation Purposes (rated 3) albeit so in terms of environmental preservation (rated 2). Initiatives like the "Red Palm Weevil Control" and the "Organic Farming Project" equally and significantly fulfill all Sharia Purposes (rated 3 for each category). The endeavors of the National Center play a role in advancing Islamic Sharia goals in promoting public health conserving financial resources and preserving the environment. These efforts have the potential to foster equilibrium and sustainability, in these domains.

The study findings show that the goals of Islamic Sharia have had an impact, on shaping the operations of the National Center for Plant Pest and Animal Disease Prevention and Control in Saudi Arabia. This influence can be seen in how the center strives to protect life, property and the environment. Here are the key outcomes.

1. Safeguarding public health

The center's initiatives to monitor and combat animal and plant diseases emphasize its dedication to preserving life. Through vaccination campaigns quarantine protocols and biological pest control methods efforts are made to prevent disease transmission to humans aligning with Islamic Sharia Purposes for public health protection.

2. Preserving financial resources

By implementing detection mechanisms, ongoing pest monitoring practices and effective control strategies the center demonstrates its commitment to safeguarding property. Shielding crops and livestock from harm not only bolsters stability but also minimizes financial losses-a testament to how Islamic Sharia principles influence financial resource preservation.

3. Upholding environmental conservation

The adoption of technologies for monitoring purposes utilization of biological control methods and advocacy for farming practices showcase the center's dedication to environmental preservation objectives. By reducing reliance, on chemical pesticides and ensuring soil and water quality maintenance these actions underscore how Islamic Sharia values contribute to protection.

4. Raising awareness and providing training

By organizing campaigns and training sessions, for farmers and agricultural workers, we can improve their understanding of the importance of preventing pests and diseases by implementing optimal farming techniques. This demonstrates how Islamic Sharia principles play a role in increasing knowledge and awareness ultimately contributing to the protection of lives, assets and the environment.

5. Involvement of islamic scholars

When Islamic scholars participate in creating laws based on teachings alongside scientific and legislative support for developing plans to utilize environmental resources responsibly it ensures their preservation and growth.

6. Global collaboration and scientific research

Working together with international organizations and research institutions to develop solutions to enhance the effectiveness of preventive measures. Sharing information and expertise helps reduce costs and improve resource efficiency. All are guided by the influence of Islamic Sharia principles in striking a balance, between safeguarding property rights and environmental conservation.

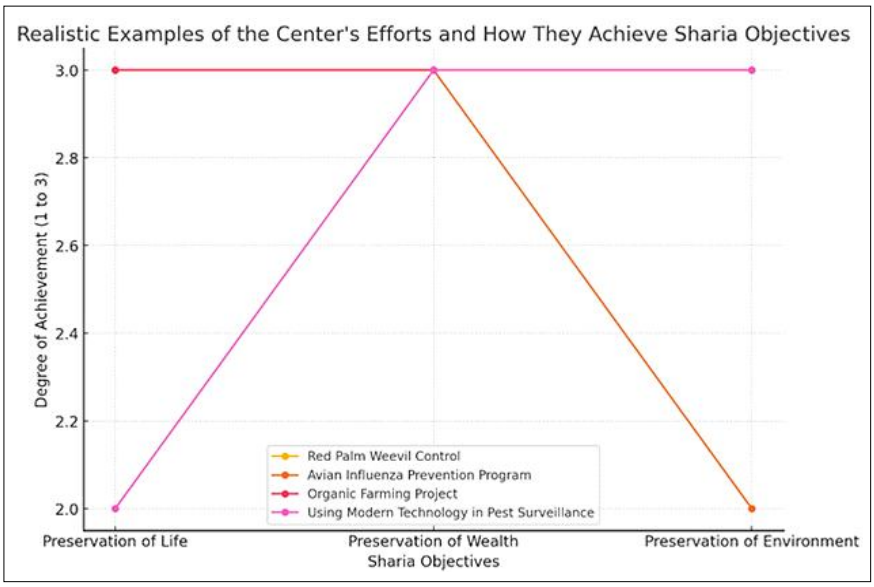


Fig 2: Real-life instances of the initiatives undertaken by the National Center.

CONCLUSION

In summary, it is clear that the goals of Islamic Sharia significantly influence the structure and functions of the National Center, for Plant Pest and Animal Disease Prevention and Control in Saudi Arabia. The center's policies and procedures showcase its dedication to upholding life, property and environmental conservation objectives. By monitoring diseases raising awareness providing training and utilizing technologies the center plays a role in safeguarding public health, economic stability and environmental well-being. This commitment to Islamic Sharia goals highlights the center's role in balancing advancement with societal and environmental protection. Through promoting research and fostering collaborations the center can enhance its endeavors for outcomes aligning with Saudi Arabia's vision for a sustainable and secure future. Therefore, the center demonstrates that it serves not as a body but, as an essential component of a holistic strategic framework focused on community welfare.

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Authors' contributions

Both authors contributed toward data analysis, drafting and revising the paper and agreed to be responsible for all the aspects of this work.

Availability of data and materials

Not applicable.

Use of artificial intelligence

Not applicable.

Declarations

Authors declare that all works are original and this manuscript has not been published in any other journal.

Conflict of interest

Authors declare that they have no conflict of interest.

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