

# Applying the Lessons Learned from the Economics Nobel Prize 2020 to Land Use Right Auction in Vietnam

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**Abstract.** This paper mainly relies on qualitative research methodology and secondary data. The paper examines the existing legal framework for land use right auction in Vietnam and its practical implementation, focusing on acquiring agricultural land for non-agricultural purposes. It shows the limitations of sharing information and the disadvantages in distributing and balancing the benefits among different stakeholders who participated in the land use right auction. Also, this paper analyses and propounds the key lessons learned from the 2020 Economics Nobel Prize in creating the information sharing and benefit-sharing mechanism among participants. The paper applies these lessons learned from the 2020 Economics Nobel Prize to create a foundation for policy change the legal regulations of land use right auction in Vietnam in order to bring benefits to households, investors, and the State.

**Keywords:** Lessons learned, Economics Nobel Prize 2020, Land use right auction, Vietnam

## 1. Introduction

The 2020 Nobel Prize in Economics acknowledges and honors two economists - Paul Milgrom and Robert Wilson - for their improvements to auction theory and the invention of new auction formats. It advances theory in matching theory, game theory, information in securities markets, and utility pricing. It also has great practical implications for worldwide sellers, buyers, and taxpayers [1].

In Vietnam, private ownership of land is not permitted, the people hold all ownership rights with the State as the administrator, and the laws allow ownership of a right to use land. Consequently, almost all public property auctions in Vietnam are land use right auctions. Land use right auctions are considered one of the basic tools used by the State of Vietnam to allocate and use land more efficiently. Since the economic reform (Doi moi) policy, land use has been affected strongly by industrialization, modernization, and urbanization [2]. The State has implemented the land acquisition and land use right auction policy with the aim to convert a part of agricultural land into the construction of infrastructure, transportation, office buildings, or industrial development, trade and services, and urban and rural residential development [3]. Accordingly, the State acquires land from farming households and then allocates it to different owners through land use right auctions. However, the land use right auction policy has many shortcomings in both policy planning and enforcement [4]. For example, the regulation that the land auction is organized after land acquisition and site clearance is not reasonable; or the starting land price for the auction is usually determined to be lower than the price of the same land sold on the real estate market; or the regulation that farming households whose land is acquired are not involved in land auction is inequity; and the negatives such as “collusion,” “price suppression”, and “price manipulation” appear among auction participants, property owners, and property auction organizations. As a result of the current auction policy and its implementation, the benefit of the farmer whose land is acquired is not possibly ensured, while, except for state budget revenue, most of the profit of land conversion projects belongs to real estate investors [4].

This article examines Vietnam’s land use right auction policy to show the inadequacy in benefit distribution among participating stakeholders, including the State, the farmer households whose land is acquired, and investors whose land is allocated. The scope of this investigation is the project of acquiring agricultural land and converting it to non-agricultural uses. It then proposes applying the main lessons learned from the 2020 Nobel Prize in Economics to revise the legal regulations of land use right auctions in Vietnam to distribute benefits among involved parties better.

## **2. Materials and Methods**

### **2.1. Literature theories from 2020 Nobel Prize in Economic Sciences**

#### **2.1.1. Theory of new format of the auction**

Paul Milgrom and Robert Wilson proposed a new form of auction called Simultaneous Multiple Round Auction (SMRA). They have brought theory and practice tightly together. Their invention has established a foundation to train analysts to design new auctions and practitioners to choose wisely among existing auction formats [5].

Through practical observations of “common value”, “personal value” and the behavior of the parties to the auction, Milgrom and Wilson find that the value of an item at auction depends on the value of the same kind elsewhere or in the future [6]. Therefore, two authors have sought to design a suitable auction: a simultaneous multiple-round auction. This allows auctions in different locations to happen simultaneously with low starting prices while participating parties can observe each other’s behavior, reducing information uncertainty. This type of auction can assist buyers, sellers, and businesses participating in the auction in observing and obtaining the best price [7].

In this new auction method, the winning bid is not necessarily the highest selling price nor the lowest buying price. Milgrom and Wilson have incorporated theory and practice closely to answer two of the most fundamental questions in economics: who deserves the goods, and at what affordable price? [8]. Therefore, a good auction must create an information sharing and benefit-sharing mechanism among the participants so that the outcome of auctions can bring benefits to the seller, buyers, taxpayers, and the government.

Thus, the advantage of a multi-session auction form is a mechanism for benefit and information sharing among the auction participants, leading to all of them reaching maximum benefits. In sum, Milgrom and Wilson’s research on auction theory and auction design is highly practical and beneficial for society as a whole [1].

#### **2.1.2. The mechanism for information sharing among participants**

Paul Milgrom and Robert Wilson combined the role of information and incentive systems to perfect different auction mechanisms to address the problem of “asymmetric information” in auctions [9]. According to these authors, auction results can be heavily influenced by information [10]. Clearly, the information about the overall value of an item is often unknown and uncertain. Each participant will have different preferences, information, and estimation. When entering the auction, buyers observe, decode signals from the stated prices of others and decide their bid. Each bidder only knows a little bit of information about the value of the item. In the multi-session auction, they can sometimes share information with each other during the auction, and they can even negotiate behind each auction. Therefore, the new auction format has succeeded in creating an information-sharing mechanism among the participants. It can solve the “curse of the winner” to benefit all auction participants [11].

Besides, Milgrom and Wilson have contributed to the notion of affiliation and related concepts to become general tools for finding equilibrium and for carrying out comparative statics [12]. For instance, the monotone likelihood ratio property and supermodel have become important and popular in general information economics and organizational economics, as well as other fields [12]. Especially in the condition of incomplete information or complementary, these tools play important roles in analyzing situations to establish the mechanism of information sharing in an organization.

#### **2.1.3. The mechanism for benefit sharing among participants**

Paul Milgrom and Robert Wilson’s auction format also creates a mechanism for benefit sharing among auction participants. It is the result of combining many auction-related theories, such as bilateral bargaining, utility pricing, match theory, and game theory [13].

For example, the analysis of bidding behavior in specific auction settings can be extended to the analysis of mechanisms for bilateral trade-in negotiations in general. In this way, the insights from auction theory help in analyzing different trading institutions [10]. Another example, the problem of determining an optimal reserve price in a single-object auction, turns out to be analogous to finding a seller-optimal trading mechanism in the case of a single buyer [10].

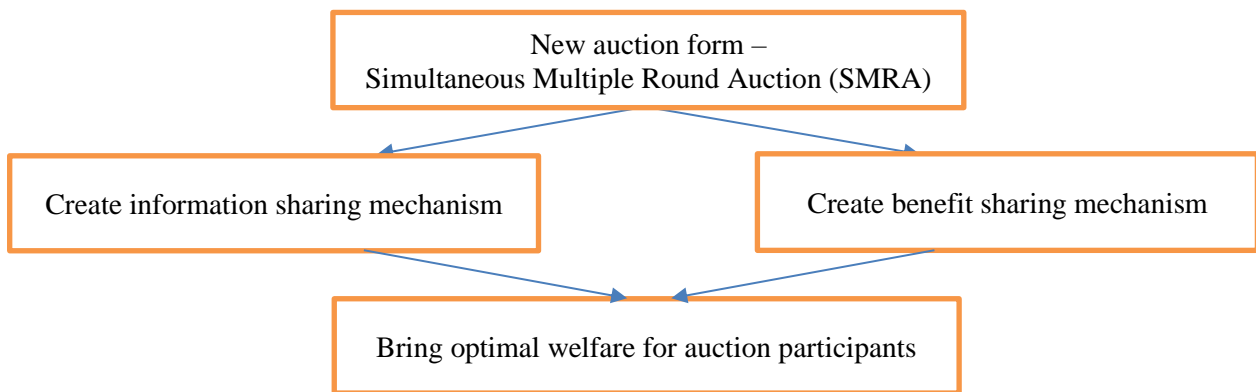
In addition, the best outcomes that can be attained in bilateral bargaining between privately informed parties are tightly connected to equilibrium outcomes of double auctions, where both the buyer and the seller submit bids. Milgrom and Wilson’s simultaneous multi-round auction makes negotiation more convenient on a mutually beneficial basis for all participating parties [11]. As well, the simultaneous multi-session auction model demonstrates the empirical relevance of game theory in situations where participants, strategy, and outcomes can be easily clearly defined [13]. This is because, through this auction, it is possible to clarify the essential things that influence the participants’ decisions, such as their preferences, information, and knowledge, which in turn leads to action that can be optimized for their benefits.

Thus, the successful application of negotiation theory, valuation, match theory, and game theory has helped create an effective benefit-sharing mechanism among auction participants.

**2.1.4. Lessons learned from 2020 Nobel Prize in Economic Sciences**

Paul Milgrom and Robert Wilson’s auction theory shows that if designing suitable auctions and choosing wisely among existing auction formats, both buyers and sellers can observe and obtain the most suitable price [12]. Key lessons learned include:

- (i) Sufficient and transparent information plays an important role in an auction;
- (ii) An appropriate auction form, including auction time, method of bidding, and the starting price, is a necessity;
- (iii) A good auction must create optimal welfare for the auction participants.



**Fig. 1.** Suggestions from the 2020 Nobel Prize in Economics for auction in Vietnam.

This is a lesson for changing auction policy in Vietnam in order to create information sharing and benefit-sharing mechanisms in order to achieve optimal welfare for the State and land auction participants.

**2.2. Method and analytical framework**

This paper employs a qualitative method that is suitable for reviewing, analyzing, evaluating, and synthesizing both theoretical and practical problems. Documents under review were from journals and books to analyze the content of the 2020 Nobel Prize in Economics. Therefore, it helps explore and synthesize main theories and ideas about auction design. Policies, frameworks, directives, and regulations on land use right auction in Vietnam were gathered from the Ministry of Natural Resources and Environment, the Ministry of Finance, the Ministry of Justice, and other State management agencies. Finally, other relevant studies and reports from land-related organizations have been rigorously reviewed and synthesized. This provides a clear insight into the context to understand the characteristics of land use right auctions in Vietnam. Based on the analysis and synthesis of the above documents, the article analyzes and explains how to apply ideas from Paul Milgrom and Robert Wilson’s auction theory to revise the land use right auction framework in Vietnam.

Furthermore, the preliminary findings of the research have been reviewed and consulted by experts, researchers, and other organizations. Conclusion and suggestions of interventions were given by considering and applying ideas from the auction theory of the 2020 Nobel Prize in Economics to change

the regulations of land use right auction to optimize and harmonize benefits for the State and other stakeholders.

The analytical process of this paper is illustrated in several below stages. First, the article analyzes the new contributions of the 2020 Economics Nobel Prize of the new form of the simultaneous multi-session auction to create information sharing and benefit-sharing mechanisms among auction participants. Second, the lessons learned for Vietnam are drawn. Third, the paper examines the legal provisions on an auction of land use rights in Vietnam, focusing particularly on acquiring agricultural land for non-agricultural uses, in order to highlight the inadequacies in information sharing and benefit-sharing among stakeholders. Finally, the article proposes to change a number of legal provisions on land use right auction in Vietnam, with the aim to create a mechanism for information sharing to maximize and balance the interests among the auction participants.

### 3. The data of land use right auction in Vietnam

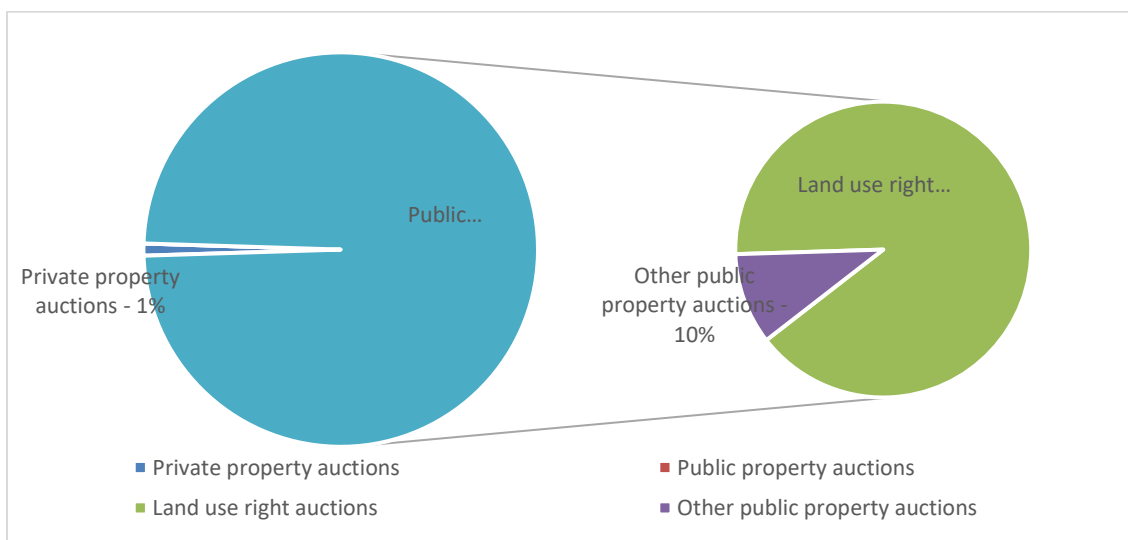
Recently, the State has promulgated a number of essential documents to establish the legal foundation for land use right auction - for example, Decision No. 216/2005/QĐ-TTg dated 31/08/2005 about the promulgation of the Regulation on land use right auction to allocate land with collection of land use fees or to lease land; Decree No. 17/2010/NĐ-CP dated 04/03/2010 of the Government on property auction; Decree No. 44/2014/NĐ-CP dated 15/05/2014 of the Government on land prices, 2014; Decree No. 01/2017/NĐ-CP dated 06/01/2017 of Government on Amending and supplementing a number of decrees detailing the implementation of the Land Law; Land Law 2003, Land Law 2013; and Property Auction Law 2017 [14, 15, 16, 17, 18, 19, 20].

In December 2019, there were 1,008 auctioneers, more than 410 property auction businesses, and 63 Property Auction Service Centers nationwide [21].

**Tab. 1.** Auction data in Vietnam between 2017-2019.

Period	Number of auctions	Total starting price (billions VND)	Total sale value (billions VND)	Profit for property owners and the State budget (billions VND)	Taxes to the State budget (billions VND)
1/2017-12/2019	86.607	194.755	233.053	38.185	100

These statistics show that 86,607 successful auctions were held, with a total starting price of more than 194,755 billion VND. The total value of selling was more than 233,053 billion VND, generating more than 38,185 billion VND profit for property owners and the State. Total tax paid was nearly 100 billion VND from the period of January 2017 to December 2019 [22].



**Fig. 2.** Vietnam asset auction.

According to the Ministry of Justice, up to 90% of the public assets that are required to be auctioned are auctions of land use rights. Assets owned by individuals and organizations put up for sale through auctions accounted for nearly 1% of the number of compulsory asset auctions [21].

#### 4. Current regulations on an auction of land use rights in Vietnam

Tab. 2 below documents the formal legal provisions and procedures of the land use right auctions. These include auction timing, auction participants, auction form, and State's starting price.

**Tab. 2.** Current land use right auction regulations in Vietnam.

Content	Current regulations	Legal Document
Time to organize land use right auction	<ul style="list-style-type: none"> <li>- After having the annual district-level land use plan approved by a competent state agency</li> <li>- After having the land use right auction plan approved by a competent state agency</li> <li>- After land acquirement and clearance</li> </ul>	Article 119 Land Law 2013 [18]
Organizations and individuals are allowed to participate in land use right auction	<ul style="list-style-type: none"> <li>- Households and individuals are allowed to participate in land use right auction to allocate residential land; economic organizations are allowed to participate in land use right auction to allocate land to execute investment projects on housing construction for sale or for sale and for lease</li> <li>- Overseas Vietnamese, foreign-invested enterprises are allowed to participate in land use right auction to allocate land to execute investment projects on housing construction for sale or for sale in combination with lease</li> <li>- Economic organizations are allowed to participate in land use right auctions to allocate land to execute investment projects on the infrastructure of cemeteries and graveyards</li> </ul>	<ul style="list-style-type: none"> <li>- Articles 55 and 56 of the 2013 Land Law [18]</li> <li>- Article 58 of the 2013 Land Law [18]</li> </ul>
Forms and methods of land use right auction	<ul style="list-style-type: none"> <li>- Forms of auctions: direct verbal auction; direct voting auction; indirect voting auction; online auction.</li> <li>- Methods of the auction: bidding up; bidding down.</li> </ul>	Article 40 of the Law on Property Auction 2016 [19]
Determination of the starting price for land use right auction	<ul style="list-style-type: none"> <li>- The Ministry of Finance is responsible for determining the starting price for land use right auction in coordination with the Ministry of Natural Resources and Environment.</li> <li>- Methods of determining the starting price include the direct comparison method, extraction method, income method, surplus method, and land price adjustment coefficient method.</li> </ul>	<ul style="list-style-type: none"> <li>- Clause 3 Article 3 of Decree 01/2017/ ND-CP [16]</li> <li>- Clause 1, Article 15 of Decree 44/2014/ND-CP [15]</li> <li>- Decree 44/2014/ ND-CP [15]</li> </ul>

### 5. Result and discussion

#### 5.1. Evaluating the current framework of land use right auctions in Vietnam

##### 5.1.1. Regarding information sharing mechanism among stakeholders

The existing framework of land use right auctions in Vietnam does not help to overcome challenges resulting from the emergence of collusion among auction participants, asymmetric information, and uncertainty in value evaluation [3]. This is because, during the auction of land use rights, the participants do not know each other's movements. There is no negotiation or bargaining, and there are no other sources of price reference in the auction.

Currently, there is no mechanism for information sharing through the State's regulations. There is only the requirement that competent authorities announce information about auction organizations and auction land plots through various channels. For instance, it is required to post information about land auctions on specialized websites of the central or local agencies and notify that information at the Commune People's Committee [3].

However, due to the massive press volume, it is not easy for interested parties to access posted information on land auctions in mass media. Besides, advertising that information at the Commune People's Committee where the auctioned land is located is also very difficult for out-of-province people to access. This is because in many localities, the website of the Commune People's Committee has not been completed or licensed by the Ministry of Justice [23]. In addition, searching for specific auction information on a common website can cause difficulty for the majority of people, especially the poor living in rural areas, ethnic minorities living in remote areas, and people with disabilities. Furthermore, there is a lack of reputed and good asset auction organizations in some localities [23]. While the Commune People's Committee does not play a favorable role in supervising and monitoring, the regulations on publicly announcing land auctions have not been implemented well and seriously.

Furthermore, currently, auctioned land prices are totally determined by state authorities. There is no consultation with independent agencies or experts to help to evaluate land prices. The law has prescribed and guided procedures for hiring a consultant to determine specific land prices [3]. However, there is no mandatory regulation requiring to use of this consultancy for the auction. There are a number of private organizations providing consultancy on land prices, but the valuation capacity has not been evaluated. There are no state professional organizations assigned to take responsibility for the appraisal of land valuation results by consultancy organizations, nor is there any legal corridor to unify the management of the private valuation. The Ministry of Natural Resources and Environment, Ministry of Construction and Ministry of Finance are involved in this management [22]. Regulations on technical standards for land pricing services and on the mechanism of delimitation when there are disputes over valuation results are also still lacking.

### **5.1.2. Regarding benefit-sharing mechanism among stakeholders**

Currently, the land use right auctions for allocating land are separated from the agricultural land acquisition process of the State. In this case, the land put up for auction is "clean land" after land clearance, and the auctioned land price is set by the state agency [3]. With the current implementation, there is absolutely no benefit-sharing mechanism among the farmer households whose land is acquired, the investors whose land is allocated and the State. In projects in which agricultural land is acquired and auctioned for non-agricultural purposes or commercial and profitable activities, the benefits and risks of these projects are shared not only by households and the community but also by investors. There is currently no mechanism for benefit and risk-sharing among stakeholders involved in these projects. This problem is analyzed below.

Specifically, in the projects of acquiring agricultural land for the non-agricultural purpose, by the State's decision of land acquisition and land allocation through land use right auctions, the purpose of using agricultural land is converted to non-agricultural land. After that, land prices usually increase sharply because of the fact that the price of residential and service land is much higher than that of agricultural land [24]. The gains from the increase in land prices mainly benefit investors who are usually the winners in the auction and allowed to own the land use rights [25]. Investors, including enterprises, organizations, and individuals after winning in auctions, are allowed to convert land use from agricultural land to non-agricultural purposes, such as investing in business and housing. They can collect a large profit from the change of land price before and after the auction. If investors can buy land at low prices in the auction, their income from the auction increases many times over. Even if investors pay high prices in the auction, they are still able then to sell that land slot at a larger profit in the estate market [25].

On the other hand, the farmers, despite losing land - their main source of income - receive only compensation and support based on the land price bracket set by state agencies. The benefits obtained from auctions are completely denied to the farmers. In many cases, farmers suffer a lot of disadvantages as a result of land acquisition, such as losing income, property, livelihood, resulting in extreme poverty or impoverishment [26]. This is because the land is the primary means of production and the main source of income for farmers. The vast majority of them do not have any job other than farming, although they do some secondary jobs when not actually working on the farm. Moreover, when agricultural land is acquired,

the spiritual and cultural life of the farmer is greatly affected. In the rural context of Vietnam, agricultural land carries the identity of the family, lineage, history, culture, and spirituality, which has been passed down through generations [23]. These cultural and spiritual values cannot easily be erased or replaced. Many farmers cannot accept abandoning their agricultural land, which was left to them by their ancestors and took much effort to develop and persevere. Often, this land is forcibly recovered by the State, then auctioned and transferred to real estate development, and eventually sold at much higher prices than the compensation received by the farmers. Compared to the profit obtained by investors, farmers whose land is acquired gain a lot less [26].

Furthermore, land price determined by state authorities to compensate for forcibly acquired land is not close to the market price if that land were to be freely transferable in the market [23]. This is a limitation of evaluating and determining land prices because of the incapacity to investigate, survey land prices in the market. This also comes from the weaknesses in applying modern methods of determining land prices or collusion and bribery in the implementation auction process. As a result, the auctioned land price is always determined to be lower than the market price of that land, leading to a number of investors who have no real need for land participating in the auction with the aim to speculate on land [2].

Thus, through the land use right auctions after acquiring agricultural land, the State has created great added value by changing the purpose of land use. While investors get the greatest benefit from this added value, the direct benefit of farmers is less. They may even take a disadvantage if the compensation price is too low compared to the increase of land prices in the market after land-use conversion.

**5.2. Suggestions for changing regulations of land use right auction in Vietnam**

Building a suitable auction form that can create mechanisms for information sharing and benefit sharing in order to achieve optimal welfare for land auction participants in Vietnam is necessary. Some legal provisions of land use right auction should be changed. These include (i) the time to organize the auction, (ii) the organizations and individuals allowed to participate in the auction, (iii) the forms and methods of the auction, and (iv) determining starting price.

Firstly, the auctions of land use rights should be organized before land acquisition and site clearance. Second, it is recommended that organizations, individuals, and households whose land is acquired should be added to the list of compulsory participants. Thirdly, it is recommended that multiple round auctions of land use rights with different land plots in different areas at the same time should be organized. Fourth, in terms of land price valuation, the State should add a provision allowing that the participants whose land is acquired have the right to request the land price determination from authorized agencies, and this price could become the starting price of auctions.

Tab. 3 below compares the benefits and drawbacks of land use right auctions under the existing framework and the new proposal.

**Tab. 3.** Comparison of Changes in Land Use Right Auction Form and Process.

Content change	Auction format	
	Current regulation	New proposal
<b>Auction time</b>	After land acquisition and site clearance - Advantages: separating the process of land acquisition and land auction, creating a “clean land” fund for auction. - Limitations: benefits are not guaranteed for farmers whose land is acquired	Before land acquisition and site clearance - Advantages: ensuring harmonious benefits for farmers whose land is acquired - Limitations: complexity in formulating, implementing, examining, and monitoring policy implementation
<b>Participants</b>	Farmers whose land is acquired may or may not participate in the auction. - Advantages: flexible - Limitations: benefits are not guaranteed for farmers whose land is acquired	Farmers whose land is acquired are required to participate in the auction. - Advantages: ensuring benefits for farmers whose land is acquired - Limitations: complexity in formulating, implementing, examining, and monitoring policy implementation

<b>Auction method and form</b>	- Direct verbal auction; direct voting auction; indirect voting auction; online auction - Method of the auction includes: bidding up method; bidding down method	- Organize multi-round auctions; multi-session auctions at the same time - Additional regulations on information disclosure - Additional regulations on online auction venues
	- Advantages: easy to implement, fast, low cost - Limitations: asymmetric information arises in price manipulation	- Advantages: creating an information-sharing mechanism - Limitations: complexity in formulating, implementing, examining, and monitoring policy implementation
<b>Determine starting price</b>	Authorized by state management agencies	The participants whose land is acquired have the right to request the land price determination
	- Advantages: easy to implement, fast, low cost - Limitations: land prices are determined not corresponding to market prices, not ensuring harmonious benefits for farmers whose land is acquired.	- Advantages: enhancing stakeholder's participation, ensuring the interests of participants whose land is acquired - Limitations: complexity in formulating, implementing, examining, and monitoring policy implementation

## 6. Conclusion

The primary goal of this paper is to synthesize existing auction of land use right frameworks in order to apply the lessons learned from the 2020 Nobel Prize in Economics to support designing a new method for land use right auctions in Vietnam. Focusing on auctions of land that was formerly agricultural land, the research shows that the existing land use right auction framework fails to harmonize interests among stakeholders, especially farmer households whose agricultural land is acquired. The paper applies the lessons learned from the Economics 2020 Nobel Prize in creating information sharing and benefit-sharing mechanisms to change current land use right auction regulations. The paper recommends that the State should rethink and adopt the proposed effective provisions of land use right auction, including provisions about the time to organize auctions, the organizations and individuals required to participate in auctions, the forms and methods of auctions, and the determination of the starting price.

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