

Agriculture Resource Conflict and Poverty of Cocoa Smallholders in Indonesia Borders: An Interpretative Structural Modelling

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Abstract Agriculture and poverty have been long-standing issues in many countries. In fact, agricultural development issues in the country's borders are still poorly understood, affecting agricultural policy design. This study aims to investigate the structure of strategic programs for increasing cocoa production for poverty reduction of smallholders and reducing conflict of agricultural resource utilization in the Indonesian borders. This study employed Interpretative Structural Modelling. Novelty of this research lies in the new research area, located in the border area of Indonesia, because there has been no previous research that analyses the border area of the country due to difficult access, communication and security, whereas the border area is a conflict-prone area if it is directly adjacent to another country. The results show that, based on the reality of institutional structure (central, provincial, and district), strengthening the institutional management of local resources should be more focused on institutions in the country border (districts) to avoid agricultural resource conflict. Of the 14 sub-elements analyzed, it was found that 10 can be applied as a strategic program for increasing cocoa production, driving force for combating poverty of smallholders, and reducing conflict of agricultural resource utilization in the country border for cocoa production and agricultural development in a broad sense.

Keywords Country Border, Poverty, Cocoa Smallholders, Agriculture Resource

1. Introduction

Poverty is the deepest in rural [agriculture] [1]. Many farmers experience financial stress to create cash flows to meet their debt service payments [2], commodity price shocks [3] and the impact of asymmetric information [4]. Different incentives guide households' labor allocation decisions in the context of imperfect market integration compared to well-functioning markets. This has important implications for natural resource conservation policies [5]. Therefore, it is necessary to increase awareness, concern, and product quality in the agriculture sector [6], enhance employment opportunities and income of rural communities [7], sustain local farming [8] and strengthen intercropping system [9]. The larger the farm a household has, the higher its dependence on agriculture [10]. In other words, the smaller the farm a household has, the higher its dependence on non-agricultural pursuits for its family income. At the same time, it can be expected to reduce conflict of agriculture because of increased competition for controlling resource-rich areas [11], and functioning agriculture to minimize vulnerability to climate change [12]. Other studies have mentioned that different incentives guide households' labor allocation decisions in imperfect market integration for well-functioning markets [5]. This

has important implications for social justice [13].

Agricultural issues and poverty in the Industrial Revolution 4.0 era will be faced by all countries to ratify revolutionary provisions. This is because the industrial revolution will have an impact on the global economy. The agricultural production market is rapidly changing and adapting to global trends. Such revolutionary changes affecting agribusiness operations and management [14], scarcity of water resources for agriculture [15], the negative impact of importation policy for agriculture [16], including technology as a top priority [17] and fewer partnership opportunities [18] might create food insecurity [19]. Critical issues in rural communities include a wider income gap with urban areas, poor rural institutions for agricultural development, and unsustainable farming methods that could negatively impact the local environment and human health [20]. Therefore, the enhancement of agricultural productivity is an important condition for alleviating rural poverty, increasing household income, and stimulating the growth of non-farm activities among rural households [21]. In addition, agricultural income subsidizes part of the cost of labor production [22], which can be identified as rural agrarian studies [23], contradictions, and contestations [1] of agricultural development.

Land control in contemporary land grabs can benefit from engagement with the literature on booms in the production of crops, such as cocoa, coffee, fast-growing trees, oil palm, rubber, and shrimp in Southeast Asia [24]. Indonesia must comb through new sources of economic growth, including cocoa development, as a source of foreign exchange and national employment. Indonesia is one of the largest producers [25]. The Industrial Revolution 4.0 gave a "signal" of the political will of the government, strengthening the capacity and the role of institutions [26], including the cocoa plantation to sustain agriculture. Simultaneously, Indonesia must consider production standards that can be accepted by the global market in the Industrial Revolution era (including the European Union). This phenomenon indicates that Indonesia desperately needs information and data that can be used in planning and decision-making to anticipate the impact of the Industrial Revolution. The production sector (farmers) is not yet competitive, including cocoa smallholders who are still poor and located at country borders. Competitiveness results in the dispossession of less successful smallholders from below by commercial smallholders and from above

by large estates vertically integrated into agribusiness marketing chains [27]. Ghafur [28] emphasized that the role of a border is very important, especially if it is associated with the improvement of the quality of society's life in terms of economic, social, political, cultural, environmental, defence, and security. Conflict [in border regions] can affect agricultural productivity and reduce the hours of hired labor for men and women, even though it does not affect the use of family labor [29]. Although a strong positive correlation between rural residence and poverty is well documented in the literature, the direction of causation is indeterminate. Existing studies assume a causal link between rural residence and poverty [30].

There is a high expectation of sustaining national cocoa production and exports to global markets (including the European Union), one of which is in the country border zone. The European market demanded more intermediate products, such as cocoa paste, cocoa butter, and cocoa powder [31]. Therefore, it is important to map poverty profiles and alternative policies for managing cocoa farmers' poverty at the border. Focusing on increasing cocoa competitiveness needs to be done in international trade at a cheaper price [32]. The fluctuating export value of cocoa beans indicates competition among exporters in the global market [31]. The urgency that escaped attention was that the total cocoa production reached more than 90% of that produced by smallholder plantations, which were carried out by poor smallholders. The remaining 3.41% were PTPN plantations (government) and 3.95% were private plantations. This shows the importance of the contribution of Indonesian small cocoa farmers to increasing production (with 11.69% growth per year, higher than the national average growth of 10.49% per year). This indicates that border areas that focus on plantation production (including cocoa) are an important concern in handling farmers' poverty. If Indonesia does not have smallholders who continue to produce, it will not be able to avoid a drastic decline in cocoa production growth, which will result in reduced export volume and value, which in turn will have a negative impact on foreign exchange decline. Vu and Glewwe [33] mentioned if consumer prices increase less than producer prices, welfare benefits are higher, and the reduction in poverty is greater. If consumer prices rise faster than producer prices do, the positive impacts of higher prices on welfare and poverty reduction are smaller.

In fact, agricultural development issues in the country's borders are still poorly understood, affecting agricultural policy design. In addition, during the four decades of the development process (1966-2006), attention to agricultural development in the country's borders was still weak for some possible reasons. First, the border problem has a very complex dimension: the development of border areas does not only use a geographic perspective and a political perspective, but also a social perspective because it will talk about the people who inhabit and the borders [34] especially to maintain livelihoods in the agriculture sector and defend against poverty [10]. Second, accessibility to country borders is still a serious issue for development, and agriculture is no exception. Border areas in Indonesia are very vulnerable to these two things, because most of Indonesia's territory borders directly with the land of other countries, such as Malaysia, Papua New Guinea and Timor Leste.

This situation leads Indonesia to need a strategic border-based program, which is a unique aspect of this study. The study began with the identification of expert opinions regarding the proposed strategic agricultural development programs in country borders toward the poverty reduction policy of smallholders. Therefore, poverty alleviation for cocoa smallholders and combating agricultural resource conflicts in the Indonesia border are crucial. At the same time, the weakness of planning and budgeting in the regions related to the development of the plantation sector also contributed to the difficulty of competing economically in ASEAN and European Union markets. Under these conditions, country borders need alternative solutions to address poverty, reducing agricultural resource conflict on a priority and targeted basis to sustain national cocoa production and exports. In fact, agricultural development issues in the country's borders are still poorly understood, affecting agricultural policy design. This research aims to investigate the structure of a strategic

program for increasing cocoa production for smallholder poverty reduction and minimizing agricultural resource conflict at the country border. The findings of this study are expected to help national and local governments reduce poverty and avoid agricultural resource conflicts.

2. Research Method

2.1. Data Construction

Analyze strategic programs for poverty reduction in country borders, data, and information from experts who understand the relevance of such programs of poverty reduction. The intended data requirements (Table 1) are as follows: (i) determination of elements and sub-elements. The analyzed element is a strategic program in the context of poverty reduction. The elements are elaborated into sub-elements based on (a) the research objectives, (b) the analysis model, and (c) the results of expert consultations, including institutional officials related to cocoa farmer institutions and local resource management. This was to identify the role of a strategic program for managing agriculture at the border (14 sub-elements of a strategic program). (ii) Preparation of 91 questions. (iii) Expert sample determination. This research was conducted through an expert system approach using survey methods [35]. The sample was determined using a purposive sampling technique with provisions representing personnel in their respective fields or agencies. A total of 25 experts or practitioners were required, with priorities that had a level of understanding, mastery, and/or were directly involved in the field of cocoa plantation business tasks. This study was conducted across three country borders. These are the borders of Indonesia-Papua New Guinea, Indonesia-Malaysia, and Indonesia-Timor Leste.

Table 1. Data structure and properties

1. Data Structure		
Data	Properties	Function
Data on strategic programs in an effort to increase production to reduce poverty of cocoa farmers in border areas.	The importance of strategic programs in efforts to increase production that can reduce poverty of cocoa farmers, according to position: independent, linkage, dependent, autonomous	To identify and determine the importance of strategic programs in the context of increasing production and reducing poverty of farmers
2. Elements		
Element	Sub-elements and Question	Target
Strategic program for cocoa production	14 and 91	The sub-element as a strategic program variable in an effort to increase cocoa production is intended to reduce the poverty of cocoa farmers in the border region

2.2. Analysis

The data obtained were analyzed using Interpretative Structural Modeling, ISM [35], regarding sub-elements as a strategic program in efforts to increase production that can reduce the poverty of cocoa farmers. Interpretive structural Modelling (ISM) is a methodology used to identify relationships among specific elements that define a problem or issue. ISM is a collective learning process in which several diverse and directly associated elements are structured into a comprehensive systematic model [36]. The major steps of the ISM analysis are as follows: (1) set up a Structural Self-Interaction Matrix (SSIM) using the questionnaire results; (2) adjust the reachability matrix table by substituting symbols V, A, X, and O with numbers 1 and 0; (3) create the Driver Power-Dependent Matrix (DP-D) that has four quadrants; and (4) create a leveled structural model for each element. The interests of each sub-element can be identified by four positions based on the Driver Power-Dependent Matrix: (1) Autonomous position indicates that every sub-element in this area is unrelated to the program or the relationship is very small; (2) The dependent position denotes that the sub-elements in this position are not self-contained, implying that they are all dependent on the actions of other sub-elements. Thus, the sub-elements in this position are insignificant. (3) The linkage position indicates that the sub-elements are very influential and must be considered carefully because of the unstable relationship between sub-elements. Every action taken in a sub-element will have an effect on it, and the feedback of that action may increase and/or produce new issues. In other words, every action on the sub-element will lead to positive results; on the other hand, a lack of attention to this sub-element will result in failure. (4) The independent position describes that the sub-elements are free variables, which have a high driver power and low dependence on other sub-elements.

3. Results and Discussion

3.1. Driving Power of Agriculture and Poverty Reduction

The majority of Indonesian poor people live in rural areas (64 percent) and depend on the agricultural sector for their livelihood. Therefore, agricultural development in Indonesia may have a significant effect on poverty alleviation [37]. One simple question when identifying solutions to poverty is how strategic programs can be synthesized. This study identifies a strategic program that is expected to reduce the poverty of cocoa farmers in country borders by analyzing 14 sub-elements, as clearly proposed in Table 1. The results of the analysis show that 14 sub-elements are distributed throughout the three sectors: (1) there are four sub-elements in an independent position, (2) there are six sub-elements in the linkage

position, and (3) there are four sub-elements in the dependent position. The position of the sub-elements indicates the preference order of the driving power strength for lower poverty, particularly in country borders. Based on the results, only 10 sub-elements of a strategic program show considerable driving power towards poverty reduction and agricultural resource conflict alleviation for cocoa smallholders. There are six strategic programs in independent positions, and four programs in the linkage position (Figure 1). We will elaborate on the strategic program for reducing poverty among cocoa farmers on the country border in three sections (Independent, Linkage, Dependent).

3.2. Driving Power in Independent Position

Interpretative Structural Modeling (ISM) findings show four strategic programs that are in independent positions (Figure 1). Three of the four strategic programs in this category are considered key programs: (1) implementation of price policies, (2) application of primary product processing techniques (fermentation), and (3) application of secondary product processing techniques (intermediate products, final products, and by-products). The driving power of all three programs is high (average DP = 1.00), which makes them essential for smallholder poverty alleviation, particularly in the border regions. Another consequence of these three projects is that as long as they are all operating at optimum performance, cocoa production will continue to rise and ensure the well-being of farmers and rural communities in general. If market prices remain stable and profitable, farmers are encouraged to continue farming. This approach to secondary product processing was identified as a strategic program (DP = 1.00, D = 0.50). This strategic program is aimed at improving the well-being of cocoa smallholders in border areas. Byproducts, intermediate products, and final products are examples of secondary product processing. (1) Processing pulp into nata and (2) processing pulp into juice and jelly ice are two cocoa product processing methods that can help farmers make more profit. However, high-quality cocoa beans [38] are expected to be sold in the global market.

Secondary product processing that might increase farmers' income is the processing of semi-finished chocolate products, namely pasta, fat, and cocoa powder. While the processing of end products (final products) that have high market potential is cocoa powder [40], this secondary product processing has the potential to increase farmers' household income or smallholders' welfare [41], because it requires appropriate technology that can be adopted by farmers. An increase in production is a strategy to reduce the poverty of smallholders, including in border regions. In addition to the three key strategic programs stated above, the ISM analysis shows another strategic program in an independent position, namely diversification of cocoa plants with productive plants (Figure 1).

14				13			9;10							
13							2							
12														
11								4;14						
10		Independent						3;6		Linkage				
9								7		1				
8														
7														
6														
5											5			
4											8			
3		Autonomous									Dependent			
2											11;12			
1														
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

- Notes:
1. Preparation of seeds in accordance with the farmers' needs
 2. Diversification of cocoa plant with the other productive plants
 3. Downstream industry development (local, regional and national)
 4. Application of production techniques
 5. Application of agribusiness management
 6. Implementation of Integrated Pest Control systems: (Pruning, Fertilizing, Harvesting, Fruit Savings, and Sanitation, P4S).
 7. Application of the technique of controlling fruit rot disease
 8. Application of Vascular streak dieback controlling
 9. Application of primary product processing techniques (fermentation)
 10. Application of secondary product processing techniques (by-products, intermediate products, and final products)
 11. Joint Economic System Empowerment (SKE)
 12. Empowerment of the Garden Management Coordination Forum (FKMK).
 13. Price policy implementation
 14. Transportation of agricultural inputs

Figure 1. Strategic Program Position [39] with a little modification at note-13 and 14 (independent and linkage)

Another important finding is that diversification of cocoa plants with productive plants is important to help meet the needs of farmers' lives before productive cocoa plants. The ISM analysis results (Table 2) show that this sub-element is an important variable in the development of cocoa production. Previous research has shown that many farmers leave farming land to work in other fields before cocoa production. This had to be done to meet the immediate needs of the family's life. Farmers can only work in the informal sector with sufficient income [10]. Simultaneously, abandoned cocoa farming becomes dormant after months without adequate maintenance. It is not something wrong, to help farmers, especially in border

regions, the strategy of diversification of cocoa plants with short-term productive food crops is marketable. In line with Anang and Aryeh-Adjei [42], farming households can pair farming activities with alternative livelihoods without leaving farming. This has contributed to the reduction of income poverty in rural households. Diversification of cocoa plants with other types of productive plants in the short term allows farmers to earn income to meet the needs of their family, especially before cocoa farming earns income. because it provides an understanding of how farmers manage forests. Farmers are more independent and generate more profit from community forests than from non-community forests [43].

Table 2. Strategic program in increasing cocoa production for poverty reduction

Position	Strategic Program	Weight	
		DP	D
<i>Independent</i>	1. Diversification of cocoa plant with the other productive plants	0.93	0.50
	2. Application of primary product processing techniques (fermentation)	1.00*	0.50
	3. Application of secondary product processing techniques (by-products, intermediate products, and final products)	1.00*	0.50
	4. Price policy implementation	1.00*	0.30
	Average	0.98	0.45
<i>Linkage</i>	1. Preparation of seeds in accordance with the farmers' needs and experience	0.64	0.78
	2. Downstream industry development (local, regional and national)	0.71	0.64
	3. Application of production techniques	0.78	0.64
	4. Implementation of Integrated Pest Control systems: (Pruning, Fertilizing, Harvesting, Fruit Savings, and Sanitation, P4S).	0.71	0.64
	5. Application of the technique of controlling fruit rot disease (Phytophthora palmivora)	0.64	0.64
	6. Agricultural Input Transportation	0.78	0.64
Average	0.71	0.66	
<i>Dependent</i>	1. Management Agribusiness implementation	0.36	0.86
	2. Application of Vascular Streak Dieback controlling	0.28	0.86
	3. Empowerment of Joint Economic System (SKE)	0.14	0.86
	4. Empowerment of the Garden Management Coordination Forum (FKMK).	0.55	0.86
Average	0.23	0.86	
<i>Autonomous</i>	---		

*) Key programs

A stable price policy is an expectation of smallholders. No matter how high the quantity and quality of production are, it is not followed by a stable market and price. Since April 2010, one of these policies has imposed an export tax on cocoa beans that aims to increase the availability of cocoa beans for domestic processing companies at an affordable price [44]. However, the preferred policy strategy for achieving these developmental objectives remains intensely debated. A specific policy strategy for resource-based industrialization, involving pre-export value addition to raw materials, is frequently pursued by resource-rich countries globally [45]. With an efficient system of pricing and distribution, trust, and cooperation among the community and an accepted method of matching demand and supply by thumb rule, the community has kept poverty away for nearly three generations [46]. Experience shows that many commodities and even export commodities have increased in quantity but have no positive economic impact on farmers. The agricultural sector's positive contribution is felt more by those engaged in marketing or trade than by farmers (producers). Price instability is a causal factor. Not infrequently occurs in conjunction with increased production and falling prices. This is compounded by the existence of middlemen, who deliberately play around prices or market monopolies at the farm level. Although the latter, sometimes between farmers and traders, have made initial commitments, the commitments that are intended to occur under conditions of compulsion by farmers due to family economic pressure

must be met at that time. Therefore, the issue of a price policy that is absolute and indispensable in relation to poverty reduction of cocoa smallholders is a strategic program (see DP = 1.00 and D = 0.30).

The next crucial finding is that the application of primary or fermented product processing techniques (cocoa beans) is the target of cocoa production development. The processing of cocoa products is an agribusiness component that must be executed collectively. The advantage of implementing collective processing is obtaining high-quality cocoa beans, which are more profitable in marketing channels. The results also revealed that price instability in the prices of fermented and non-fermented cocoa was not very significant. This is why farmers feel reluctant to do the fermentation, which has a negative impact on the low quality of cocoa produced by farmers.

3.3. Driving Power in Linkage Position

The six programs must be managed effectively because of their influence on cocoa development programs. They are (1) preparation of seeds according to the farmers' needs and experience, (2) development of downstream industries (local, regional, and national), (3) application of production techniques, (4) application of integrated pest control systems (pruning, fertilizing, harvesting, fruit scavenging, and sanitation), (5) application of fruit rot disease control techniques, and (6) transportation of agricultural inputs.

It is important to note that the preparation of seeds in

accordance with the farmers' needs and experience, the issue of farming, and plantation input seeds is very important. Seed quality will determine the quantity and quality of production in the future of a farm. Nevertheless, this is often a crucial problem at the farmer level due to farmers' lack of ability in terms of capital, so that they are constrained in preparing seeds. Experience in South Sulawesi shows that it is not uncommon for the government to provide seed assistance, although this often does not work as expected. This program is often constrained by farmers' time and experience. Seedling assistance reached the farmers during the dry season. In addition, the types of seeds prepared by the government or other donor agencies do not match the types of seeds desired by farmers. Therefore, to avoid failures in the future, all types of assistance, including seedlings and technology, must be adjusted to the needs and potential of farmers as the spearheads of implementation in the field.

As clearly depicted in Table 2, the application of production techniques (DP = 0.78 and D = 0.64) and fruit rot disease control techniques (DP = 0.64, D = 0.64) are two of the six sub-elements in the linkage position as a strategic program in developing cocoa production. Both of these sub-elements are very influential variables or directly affect quantity production. Therefore, in terms of value, the technology that needs to be developed can be adopted by farmers based on experience in their respective regions. The experience of applying technology forced on farmers in the past often ended in instances of indirect conflict and mutual distrust between farmers and elements of program management institutions. This indicates that the application of the two technologies as a strategic program in increasing cocoa production requires care in accordance with farmers' readiness and field conditions.

ISM analysis results showed the implementation of the Integrated Pest Control (IPM) system, which is a strategic program for increasing cocoa production. As in other farms, cocoa farming can avoid pest and disease attacks to maintain production both in quantity and quality. Additionally, pesticides have a negative impact on the environment. However, this does not necessarily guarantee that cocoa plants are protected from pests and diseases. Transportation of agricultural inputs is a problem for many cocoa farmers. The presence of inadequate transportation facilities increases fertilizer prices and other production inputs. In addition, the limited ownership of capital by farmers makes it even worsen the problems that surround farmers in terms of developing their farming. The limited infrastructure of transportation makes it difficult for farmers to reach markets. The results (DP = 0.78 and D = 0.64) indicate the need for attention to the transportation of agricultural inputs as a strategic program in the cocoa production improvement program, especially in border regions.

Finally, it was also found that downstream industry development is one of the strategic programs in the development of cocoa production, which involves

changing the form of primary products (cocoa beans) into final goods (ready for consumption), including: (1) nata/cocoa syrup and compost fertilizer raw material, (2) intermediate products (pasta, fat, and cake), and (3) final product (chocolate food) [47]. These industrial products need to be realized by preparing an industry-supporting infrastructure to help accelerate poverty reduction.

3.4. Research on Institutional Agriculture and Future Prospective

Research on institutions and institutional change in a country may contribute not only to the development of economic theory in general but also to that of institutional reforms in that country [48]. Unfortunately, research on institutional agriculture (especially in country borders) is sparse in terms of agricultural economics and rural development. Mainstream explanations of institutional constraints [49] in rural agriculture clearly show that several theoretical explanations have been offered regarding institutional weaknesses in agriculture. The first explanation is poor technology. There are two variants: historical and contemporary. This historical explanation draws attention to the technological stagnation problem in Africa. African agriculturalists arguably entered colonialism with a primitive hand hoe and left colonialism with primitive agricultural technology [50]. An interesting point was found in the study on some operational issues, an institutional constraint in lending to small farmers [51] in which a typical socio-economic environment that limits the possibility of raising standards of living is strongly associated with agricultural institutions in a broad sense.

The most similar analysis in Southern Africa examines various dimensions of institutional constraints faced by small farmers in the region and how they deal with them [52]. It has largely focused on knowledge infrastructure, market structure, and hard institutional aspects [53], including farmers motivation [54], macroeconomic factors (interest and unemployment rates) are strong predictors of farm bankruptcies for farms while agricultural land values are the only consistent strong predictor among the agricultural factors [2]. These factors require institutional strengthening towards agricultural development.

For example, in Albania, fiscal constraints, particularly high rates of taxes and contributions, financial constraints, and the institutional environment have been some of the major barriers they have had to surmount [55]. With respect to the institutional framework, a country with better governance can produce more agricultural output, given the same amounts of agricultural inputs, education level, and climate conditions [56]. In Bangladesh, it is clear that the benefit of institutional support is mainly enjoyed by farmers belonging to higher landholding groups [57]. Similarly, in Kenya, agricultural extension institutions significantly influence the uptake and utilisation of agricultural inputs to increase production [58]. This means that agricultural institutions must have extension planning,

focus and objectives based on programmes aiming at agricultural and rural development [59].

It is important to note that these studies provide a good analysis in terms of the role of institutions in economic development on one hand. However, these studies do not reflect how the institutional framework captures the problem of agricultural development in country borders, which could be an advantage of this research. The fundamental finding of this particular study is that it focuses on some strategic programs that encourage cocoa production (agricultural development in a broad sense) for poverty alleviation in country borders (rural development in other words). Due to different peculiarities, agricultural development in borders has a unique policy to handle.

Problems with country borders have complex dimensions. The development of border areas not only uses geographical and political perspectives, but also uses a social perspective because it describes people who inhabit and cross the border [34] for both agricultural and non-agricultural development interests. Further, border typology needs to be explored not only at the land border but also on the ocean border to improve policy and agricultural institutions. These two typologies have very different socio-economic resources and access to both local and central governments to encourage agricultural institutional development.

4. Conclusions

It can be concluded that based on the reality of institutional structure (central, provincial, and district), strengthening the institutional management of agricultural local resources should be more focused on institutions at the district level. There are four policy priorities to promote poverty alleviation and agricultural resource conflict resolution at country borders. They are primary secondary product processing (for farmers and industry), price policy support (for the central government), and improvement of agricultural input transportation (for the local government).

Declaration of Interest

The authors declare that there is no conflict of interests.

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