EXISTENCE AND SUSTAINABILITY OF SHARECROPPING CONTRACT IN BALI PROVINCE, INDONESIA

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ABSTRACT

In agriculture in Bali, there are still many unwritten agricultural contracts that are very traditional in the form of sharecropping contracts. The traditional sharecropping contract regulates the sharing of results and also costs between the landowner and tenant. The purpose of this study is to identify and analyze key factors related to the existence and sustainability of sharecropping contracts in Bali Province. This study uses a prospective analysis-MICMAC, where data were previously collected through FGDs involving experts or stakeholders who are considered to be familiar with sharecropping contracts in Bali. Based on the identification results, it is known that there are eight key factors or variables in the sharing contract in Bali. The variables included as key drivers are risk as well as productivity and soil quality, while reputation, norms, types of food crops, and kinship are relay variables. The cost and also financial position and capital are depending variables. While the variables included as key drivers are the dominant factors that have the most influence on sharecropping contracts in Bali are social norms and reputation. Meanwhile, the dominant factors that are most dependent are costs as well as financial position and capital.

Keywords: Sharecropping Contract, Micmac Analysis, Dependence Factors, Influence Factors.

INTRODUCTION

Bali is one of the ten best islands in the world according to the magazine *"Travel and Leisure"* (Antara & Sumarniasih, 2017). Tourism is not new, but it is large-scale tourism which is relatively a phenomenon. In 1968, the Indonesian government decided to promote tourism which means economic development in Bali (Hussey, 1982). The focus of cultural promotion in Bali is *"cultural"* tourism (Picard, 2018). There is a culture that is part of tourism promotion, namely agricultural culture. Balinese farmers are still preserving agricultural culture, this culture is in the form of rituals, celebrations, and very traditional farming techniques. For example, there are four agricultural celebrations that are still inherited and are still sustainable today. The four celebrations include: 1) pelemek/ngelemek which is carried out after planting paddy so that the growth of paddy plants thrive; (2) nyeeb is carried out after paddy experienced *"marriage"*; (3) ngaturin, an important celebration, is carried out after rice begins to flower and sacrifices pigs to purify agricultural land; and (4) biyukukung, carried out when harvest time is coming (Mitchell,

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1994). The agricultural technique that is still preserved is metekap (plowing the fields using cows). The metekap technique is still sustainable because of the terrain barriers to bring modern agricultural tools. Now metekap is a tourism attraction in several places in the Bali Province (Dewi & Pantiyasa, 2017; Prasiasa et al., 2019).

In agriculture in Bali, there are still many unwritten agricultural contracts that are very traditional in the form of share cropping contracts. The traditional share cropping contract regulates the sharing of results and also costs between the landowner and tenant. There are four types of profit-sharing systems, namely: (1) nandu, where the tenant (penyakap) gets half the harvest; (2) nelon, (tenant/penyakap) gets two-fifths; (3) ngapit, (tenant/penyakap) gets two-fifths and one-third; and (4) merapat, (tenant/penyakap) gets two-fifths and one-quarter (Geertz, 1964; Geriya, 1986; Raka, 1955). The share cropping contract type tends to cause tenants to get less than the total harvest. Tenants get fewer returns because tenants use less input, this will reduce all distortions of suboptimal input choices, and this will limit the benefits of traditional share cropping contracts in the form of incentives for tenants to exploit inputs provided/supplied by landowners (Allen & Lueck, 1996). Sharecropping contracts in Bali are preferred by tenants who do not have capital, tenants from poor families, tenants who do not own agricultural land. Reid (1976) found something similar, that share contracts involve immigrants, poor people, less-skilled tenants, high-skill land-loaders, or plants with complex management, the cause of this is cheapening renegotiations of contracts. Landowners also prefer to choose share cropping contracts, because these are used to help families or help others (Bellemare, 2012).

Share contracts in the United States, landowners provide land services and tenants provide labor, machinery, fuel, and landowners and tenants share product and marketing decisions and most of the contracts share production and expenditure on seeds, planting and pesticides equally (50-50) (Huffman & Fukunaga, 2008). There is a difference between the share cropping contract in Bali and America, namely the type of distribution that has various types. In addition, the traditional share contract agreement in Bali is made in an unwritten and oral form and has very simple provisions. Even though it is not written and is an oral agreement, the agreed agreement can still run well even if one of the parties pass away. Allen & Lueck (2005) found something similar, share contracts are a system that has been around for a very long time since the Adam Smith era, but the debate about the benefits of share contracts continues to this day. There is an impression that sharing crop results in inefficient allocation (Cheung, 1968).

Marshallian theory explains that the sharecropping contract model tends to be inefficient because of the disincentive effect of sharecropping on tenant's work effort, inefficiency occurs since the expected marginal productivity of labor is not the same as the expected marginal rate of substitution between labor and income (Otsuka & Hayami, 1988). The sharecropping system can cause the economy to work inefficiently, because the effective ratio of labor compared to agricultural land will be different for each plot of agricultural land, but this system does not show overall inefficiency, this system was adopted because of the incentive effect (where direct supervision is expensive/ineffective) and there is a risk sharing feature (Stiglitz, 1974). The change in the cultivation process from landowner to tenant has had a negative impact on productivity through disincentives from share crops or due to differences in production and financial capacity to purchase inputs between landowners and tenants (Arimoto et al., 2010). There are empirical findings in several countries which state that sharing crop contracts are inefficient (Ali et al., 2012; Islam & Fukui, 2018; Arcand et al., 2007).

Although many findings state that sharecropping is not efficient, there are also findings in several countries showing that sharecropping can provide positive and efficient benefits. There

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are empirical findings that sharing crop contracts can be more efficient if inputs and outputs are shared equally, this will provide incentives for tenants to use inputs at optimal levels (Deininger et al., 2013). In some cases, sharecropping will be efficient at high poverty rates and very high risk in the long-term relationship of an exchange of gifts with the landowner (Sadoulet et al., 1994). There are also empirical findings in West Bengal India, that medium-sized agricultural groups that use share crops more efficiently, this happens if you have a good irrigation factor (Chattopadhyay & Sengupta, 2001). Sharecropping contracts can have a positive impact on increasing investment for improving soil quality and agricultural productivity by increasing tenure security, but the opposite can happen if tenure security is not guaranteed by the landowner through good commitment (Abdulai & Goetz, 2014). There is no strong evidence showing that the *"Marshallian"* inefficiency is found significantly, this illustrates that the landowner's ability is able to enforce the rules of the share contract effectively at low costs, while landowners who do not do this will choose a fix-rent tenancy, (Morooka & Hayami, 1989). Available There is other evidence in India, that higher yield sharing is positively correlated with higher grain yields and negatively correlated with cost sharing with landowners, and also landowners are also associated with being semi-feudal, because they provide loans. to tenants and participate in decision-making in the use of inputs and have a high desire in productive investment in tenants, this is in stark contrast to moneylenders (Bardhan & Rudra, 1980).

There are other issues beyond the efficiency of sharing crop contracts, such as risk aversion. The risk is greatly avoided by the landowner or tenant. For a long time, share contracts have received criticism and have begun to be investigated. Adam Smith's criticized sharecropping contracts in the wealth of the nations, Smith together with John Stuart Mill and Marshall argued that the moral hazard of farmers was inherent or attached to share contracts, but later Cheung and Stiglitz (modern contract theory economists) emerged with a focus on sharecropping which explained that there is a trade-off between risk and moral hazard incentives (Allen & Lueck, 1999). There are several findings that explain that tenants will take risks in certain situations. The lessee will share most of the output with the landowner, however landowners will have little incentive to invest in aquaculture, however there are empirical findings explaining that increasing the yield share from 50% to 75% causes tenants to invest more in inputs, especially capital (fertilizers and tools), and take more risk, as result of this change, they produce 60% more output (Burchardi et al., 2019). This is very interesting, because in general sharecropping contracts are chosen to reduce risk, whereas in this case the risk can be taken by the landowner by investing more in inputs. This means that sharecropping has a negative impact in the form of inefficient allocation or risk-taking, which still needs to be studied more. However, there are empirical findings explaining that an increase in profit sharing from 50% to 75% causes tenants to invest more in inputs, especially capital (fertilizers and tools), and take more risk, as a result of this change, they earn 60% more outputs (Burchardi et al., 2019). In the other hand contracts are chosen to reduce risk, whereas in this case the risk can be taken by the landowner by investing more in inputs. This means that sharecropping has a negative impact in the form of inefficient allocation or risk-taking, which still needs to be studied more. as a result of this change, they produce 60% more output (Burchardi et al., 2019).

The development of sharecropping in various countries is not only influenced by the ability in efficiency or related to risk, but also related to institutions in the country. Sharecropping in Kazakhstan and Uzbekistan remains very attractive and sustainable because of the response from the uncertain institutional, sharecropping has no legal status, and unlike cash

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shortages in Uzbekistan or sub-leasing in Kazakhstan which are prohibited (Mukhamedova & Pomfret, 2019).

Based on the theory and the results of previous studies that have been described, there are still pros and cons regarding the sharecropping contract. There are various findings in various countries. This will open up all possibilities to be researched. Although there is no absolute theory that sharecropping is considered inefficient or even requires quite a lot of costs because it requires high supervision, this is still often found and continues in several developing countries such as Indonesia, especially in the province of Bali. Therefore, the sharecropping phenomenon is very interesting to study, considering that Bali is an area that still maintains traditional culture and habits.

LITERATURE REVIEW

Contract Theory

Sharecropping contract model is a model that involves more than one entity. In this model, the relationship between the principal and the agent is built. The principal-agent relationship arises when the principal makes a contract with the agent to perform several tasks on behalf of the principal (Petersen, 1993). In the principal-agent model there is a basic assumption, namely asymmetric information, this assumes that the agent enjoys benefits or benefits from information on the principal (Furubotn & Richter, 2010). In particular, individuals are assumed to behave in a certain way, if all individuals face zero-transaction-cost then the world will face perfect information. Following the Coase Theorem, when transaction costs are zero, the option contract will not affect the outcome. For Williamson, the transaction costs are more than the costs of finding someone else, as these costs relate to the costs of inspecting goods, finding agreeable terms, and writing exchange agreements, the costs involved in establishing a legally enforceable contract, and the costs of preventing potential expropriation of value. Investment, as well as the costs of informing and managing the terms of the contractual relationship, these costs are associated with containment of opportunism (Alchian & Woodward, 1988).

The information asymmetric assumption explains that only the agent observes his own type of action, the principal may be able to observe the action in some circumstances, but this comes at a high cost (Arrow, 1985). Because this results in a cost for the principal to know exactly what the agent is doing or is about to do, the agent has the opportunity to bias any action to gain an advantage (Alchian & Woodward, 1988).

Asymmetric information arising from opportunistic behavior is always a looming risk in transactions involving at least one party in the exchange, the perpetrator can take advantage of this situation to commit fraud and deceive others (De Janvry & Sadoulet, 2007). There are two types of asymmetric information models, namely moral hazard and adverse selection. Moral hazard and adverse selection models occur in contracts involving the principal-agent model because of the opportunism of the agent as well as imperfect information and low observational ability of the principal, furthermore adverse selection is a condition where the principal cannot observe the quality of the agent before the contract is agreed (Furubotn & Richter, 2010).

The moral hazard model is a type of agent's effort, there are factors that are very difficult to observe by the landowner that may exist, this factor will also contribute to a small increase that may not be explained in the contract model (Burchardi et al., 2019). In addition to being related to moral hazard, it is necessary to know about hidden actions and information. Arrow (1985) introduced the difference between hidden action and hidden information, in hidden

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action, the principal does not observe the actions taken by the agent, the principal only observes the results of the action and the agent observes his own actions, and may also observe random factors before choosing an action. In hidden information, the principal observes the behavior and actions of the agent, but not random factors that influence the outcome, or in the case of agents of various types of action.

In the principal-agent model there are elements that describe certain conditions that are very unique. Petersen (1993) explains that there are five main elements that describe the principal-agent condition, including the following.

1) Agent may be different for each type; this depends on the issue and case. The type of agent depends on the relationship formed either related to work or service activities, and others.
2) Agent action will affect the desire outcome of the relationship; this agent action can be in the form of effort from the agent. There is a cost for each action taken by the agent for each performance.
3) There are random factors that usually affect the outcome of each additional agent's action, these factors are related to factors that occur and cannot be controlled by agents such as weather or special sales in other stores.
4) Outcomes can be observed by principals and agents, outcomes can be observed properly, such as the results of shoe production that can be produced from the production process.
5) Principal-Agent model assumes the concept of asymmetric information. In addition to asymmetric information, there are also hidden actions and hidden information triggered by arrows. Hidden action model is a condition where the principal cannot observe the action of the agent; the principal can only observe the outcome of the action. If hidden information is the principal observes the behavior of the agent's actions, but not random factors that affect the results. Agents in hidden information can observe random factors that will affect the results before selecting them as agent's action. Since the principal cannot observe random factors, the principal is unable to judge which action the agent will choose.

Agricultural production has the type to involve several decisions that are potentially related to moral hazard (Ghatak & Pandey, 2000). So, the selection of contracts and decision making must be done carefully. For this reason, it is necessary to have good information to make good choices and decisions. Under complete information, fixed-rent contracts are the optimal institutional planning option, on the contrary sharecropping contracts are the best decisions under incomplete information (He & Collins, 2021). Furthermore, if it is assumed that the contract between the landowner and the tenant is from the same village under incomplete information, the empirical results find that landowners with imperfect information will have a lower probability of choosing a fixed-rent contact than landowners with complete information. To avoid unwanted outputs from the moral hazard and adverse selection model in a sharecropping contract, the landowner or tenant must have a solution. There are several ways to reduce the problem of adverse selection and moral hazard, including (Meuwissen, 2001):

1) Underwriting. Before starting the contract, both parties must know information about the risks borne by both parties. This causes all parties to know what causes the contract to be canceled because the risk is above normal.
2) Contract specifications. This is related to the "rule of behavior". The contract does not only regulate working hours, but is also required to provide effort, level of supervision, and amount of supervision as well as state that monitoring and verification will reduce moral hazard.
3) Deductibles. The insured can reduce losses with deductibles and at the same time reduce fraud and encourage loss prevention.
4) Compensation based on transparent and objective index. This is used to reduce adverse selection because the information used is based on a common index. It is also used because it will reduce moral hazard, because farmers cannot influence the index value.
5) Local organizations. Local organizations are used because the risk that is locally oriented is likely to have low asymmetric information problems, because the parties who share the risk have a relationship with each other.

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Risk Theory

There are various risks in agriculture, including price, biological, institutional and seasonal risks. To reduce risk in a contract, both parties reduce risk and uncertainty in two ways. The first way is to minimize risk and uncertainty by choosing a strong contract to get fair results even if at the beginning there are no correct assumptions, information gathering is another way to reduce measurement errors through sample design, for example by using spot checks (Bogetoft & Olesen, 2002). The magnitude of the risk borne by the tenant, it tends to share cropping system. The sharecropping system was adopted because it has a risk-sharing feature compared to the rental system which has a greater incentive but the tenants/workers will bear the entire cost risk (Stiglitz, 1974). Risk and effort in moral hazard can result in sharecropping contracts (Ghatak & Pandey, 2000). Profit sharing contracts can reduce risk more than cash lease contracts by reducing the income variance. Thus, under the assumption of risk aversion, profit sharing contracts are preferred over cash leases as *"insurance policies"* (Allen & Lueck, 1992).

Identify the Determinants of Contractual Agreements

There are various determining factors that determine the choice and agreement in the sharing cropping contract. Geertz (1964) found that there is a strong social relationship between contracting parties with the location of the land, soil quality, type of harvest, financial condition/capital sources such as seeds, livestock, and kindness which combined will produce tenancy initiations that can be adapted to certain circumstances. which will not end (endless). Soil productivity and quality is a measure of the value of each paddy field, if the quality and productivity of the soil, the value of the farmer plot will be higher. The higher the productivity and quality of the land, this will cause the land to be planted by the landowner, less productive and less qualified land will be planted with a fixed lease, and land with medium productivity and quality will be planted with a share contract system with tenants (Chaudhuri and Maitra, 2002). Khan et al. (2017) found that the financial position, character, and condition of agricultural land are important factors in forming share crop contracts in Pakistan. Financial position is the financial condition or wealth owned by tenants and landowners and this is the initial capital to be used as production input. The condition of agricultural land reflects the quality of irrigation and soil fertility. This character is related to the attitude of hard work, honesty, behavior and so on from tenants and landowners. The financial position and condition of the land are the same as the factors described by Geertz (1964) namely the source of capital and the quality of the soil.

In addition to social relations and others, there are also cost factors that also have an impact in determining the sharecropping contract. Cost is a very important factor in influencing the decision to choose a sharing crop contract, because through a sharing crop contract there is a balance between the costs incurred and the results to be received by both parties (Iko, 2008). The same thing was also found (Rainey et al., 2005), namely the type of crop, cost, soil quality, financial strength of tenants, risks have affected the sharing of crop contracts in Arkansas. It was further explained that tenants with strong financial conditions tended to negotiate from position strength which resulted in less landowner crop-share and higher landowner cost-share percentages in contracts in Arkansas. Furthermore, it was found that risk reference is also a very important part in the selection of share contracts, for example some landowner seem willing to share risk with tenants in exchange for higher profits/returns, namely crop-share in Arkansas. Risk sharing is strengthened in the share crop contract model due to greater uncertainty (Bryan et al., 2015).

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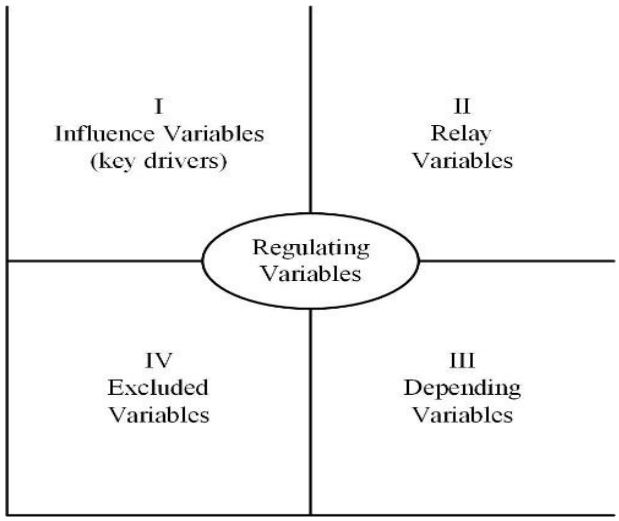
There are institutional and social factors that also influence contract decisions and choices such as kinship, reputation, and social norms. Kinship in contracts is strongly associated with high trust and transaction costs as well as low barriers to entry into tenency contracts; this is in line with findings in Northem Ethiopia that tenants with high share of kinship contracts have significant access to the tenant market (Holden & Ghebru, 2005). Reputation is an important consideration for landowners, this is because no one will want to bear the social costs of a damaged reputation, protection of reputation through contract fulfillment is important in retaining the ability to rent land in future periods (Huffman & Just, 2004). Informal Social Powers that generate norms or informal property rights, norms can also be generated from people who have close relationships to maximize wealth or reduce the amount of transaction costs and deadweight losses borne by group members, case studies on the whaling industry (Ellickson, 1989). Institutions from formal institutional and social informal institutional (norm) will affect subjective perceptions of insecure tenants, furthermore norms have evolved to maximize social welfare by spreading risk throughout individuals or in other words sharecrop contracts arise as a result of norms that aim to provide social security in Madagascar (Bellemare, 2012).

METHOD

The data in this study consisted of primary data obtained through Focus Group Discussion (FGD). The FGD was conducted with experts in the fields of agriculture, culture, and socio-economics in Bali. The results of the FGD are used as the basis for conducting data analysis. The analysis in this study uses a prospective analysis technique-MICMAC (Matrix of Cross Impact Multiplications Applied to a Classification). MICMAC analysis is an analysis of a variable system based on direct classification, where the relationship between variables is identified and assessed by experts or stakeholders through FGD (Wijaya et al., 2020). In general, the MICMAC analysis consists of two stages, the first is the identification of key variables (both internal and external), and the relationship (influence and dependence) between variables (Fauzi, 2019).



Source: Fauzi (2019)

FIGURE 1
VARIABLE MAPPING IN MICMAC

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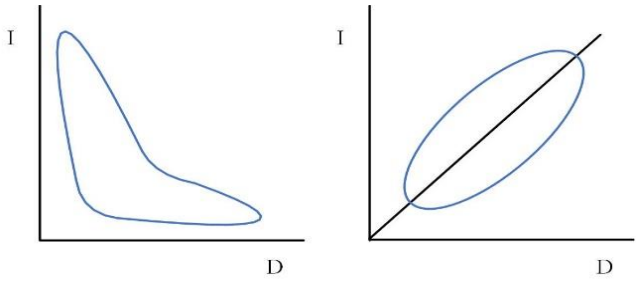
In MICMAC, the variables are grouped into four quadrants based on dependence and influence categories as shown in Figure 1.

Furthermore, based on Figure 1, Godet (2006) looks at the stability pattern of the inter-quadrant system so that it can be seen whether the system is stable or not, where the results can be seen in Figure 2.



Source: Godet (2006)

FIGURE 2
SYSTEM STABILITY BASED ON INLUENTIAL (I) AND DEPENDENCE (D) SCALE

RESULTS AND DISCUSSION

Identification of Key Factors Related to Sharecropping Contract In Bali

Through the FGD implementation, key factors related to the sharecropping contract in Bali have been identified. Table 1 shows that eight key factors were identified, which will also be used as input for the MICMAC analysis.

Table 1
KEY FACTORS OF SHARECROPPING CONTRACTS IN BALI PROVINCE

No	Dimension/Factor	Code	Description
1.	Productivity and Quality of Soil	Soil	The description of the quality of the soil in producing food crops and the production capability of the soil for each input.
2.	Types of Food Crops	Crops	The types of agricultural crops to be planted are regulated in the sharecropping contract
3.	Cost	Cost	Represents the costs that will be incurred for input to the harvesting process and even the sale of the harvest
4.	Capital and Financial Position	Capital	The capital and financial capabilities of tenants and landowners. This capital is related to tractor technology, cows to plow fields, and other tools. Finance related to access to credit, cash used for the production process by both parties.
5.	Risk	risk	Risks that arise such as crop failure, climate risk, including risks arising from the impact of moral hazard, adverse selection, and hidden actions and information.
6.	Social norms	norm	Is a social institution that contains unwritten and written rules that are very unique and not the same in every place depending on the culture and agricultural habits adopted
7.	Kinship	Kinship	Is a kinship relationship that has started since the grandfather of the landowner and tenant or kinship relations that occur due to marriage and other social activities.
8.	Reputation	Reputation	Is an image that describes self-values such as honesty, hard work, kindness, knowledge, attitudes and others related to work and the quality of output that has been produced in agricultural production activities.

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Results of MICMAC Analysis

Figure 3 shows the direct influence/dependence map which is the result of the MICMAC analysis based on the MDI (Matrix of Direct Influence) input.

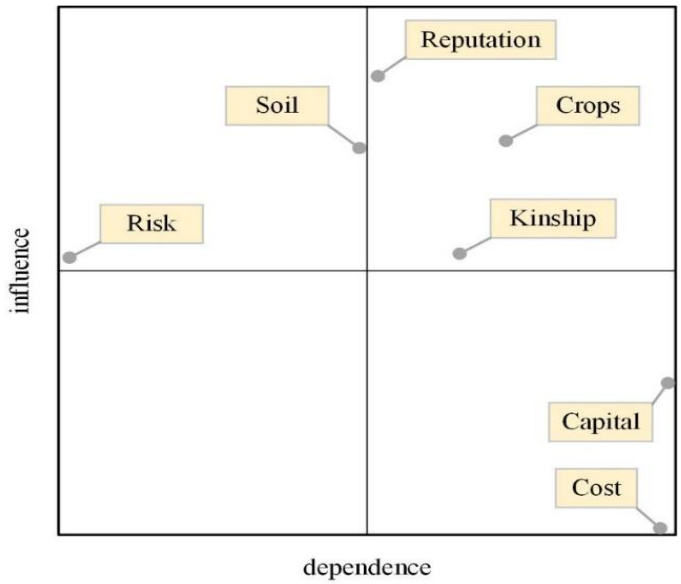

FIGURE 3
DIRECT INFLUENCE/DEPENDENCE MAP OF KEY FACTORS OF SHARECROPPING CONTRACT IN BALI

Figure 3 shows the classification of key factors in their respective quadrants. Risk and soil are factors that are included in the category of influence variables (key drivers) because they are in quadrant I. Influence variables or also called determinant variables are very influential variables with little dependence. This means that the variables classified as key drivers are crucial key factors in the system. Risk is the factor with the least degree of dependence, because it is indeed difficult to predict the risk in agricultural business, even though efforts can be made to handle it. Next is the factor of productivity and soil quality which also plays a role as key drivers, considering that land is the main component in agricultural business.

Furthermore, in quadrant II there are variables of reputation, norms, crops, and kinship. Variables whose position is in quadrant II are also called relay variables, namely variables that are influential but on the other hand are also very dependent. So not infrequently these variables are also categorized as factors that describe the instability of a system. As a result, any changes that occur in this variable have serious consequences on other variables. Like the reputation factor, where reputation is certainly very influential on other factors in the sharecropping contract, but indeed reputation is also very dependent or determined by other factors, such as the record of the quality of agricultural products. Likewise, the social norm factor which is an influential factor but also the level of its application is determined by other factors. Kinship is also in a position as a variable relay, because kinship is very dependent on kinship factors, shyness and good relations, of course also the period of service. Kinship also has a big influence on other factors, such as on costs for example. If the kinship relationship is good, it is not uncommon to reduce the use of costs or be more efficient, but also costs can actually increase

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due to the emergence of costs related to maintaining kinship relations. such as the cost for example. If the kinship relationship is good, it is not uncommon to reduce the use of costs or be more efficient, but also costs can actually increase due to the emergence of costs related to maintaining kinship relations. such as the cost for example. If the kinship relationship is good, it is not uncommon to reduce the use of costs or be more efficient, but also costs can actually increase due to the emergence of costs related to maintaining kinship relations.

In quadrant III, there are dependent variables or outcome variables. Capital and cost are factors that are in quadrant III. As we know that capital and cost are highly dependent on other factors. For example, the cost factor is strongly influenced by the area of land and the types of plants being cultivated. Likewise, the required capital of course also varies and is highly dependent on the type and area of cultivation.

In the discussion of the sharecropping contract case, there are no variables or factors that are in quadrant IV which is a position for excluded variables. Excluded variables are characterized by small influence and small dependence, therefore they are called excluded because they will not stop the operation of a system or take advantage of the system itself.

If the position of the key factors in Figure 3 is made in an inter-quadrant system stability pattern, it can be described as in Figure 4.

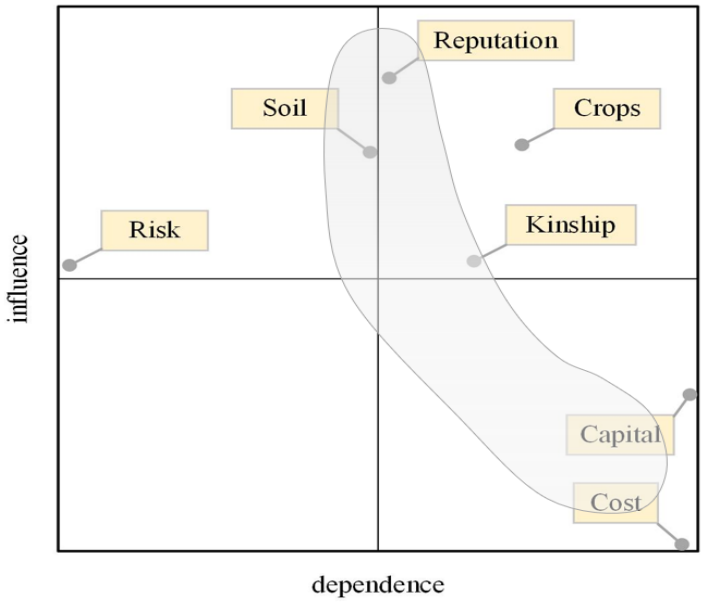

FIGURE 4
SYSTEM STABILIZATION ON KEY FACTORS SHARECROPPING CONTRACT

Figure 4 shows that the pattern on the stabilization of the inter-quadrant system is a stable system. This means that in a stable system, the differences between the influential and dependent variables have clearer boundaries.

Furthermore, the pattern of relationships between variables in MICMAC can occur directly between one variable and another variable. Figure 5 shows the network of direct effects between key factors of the sharecropping contract in Bali.

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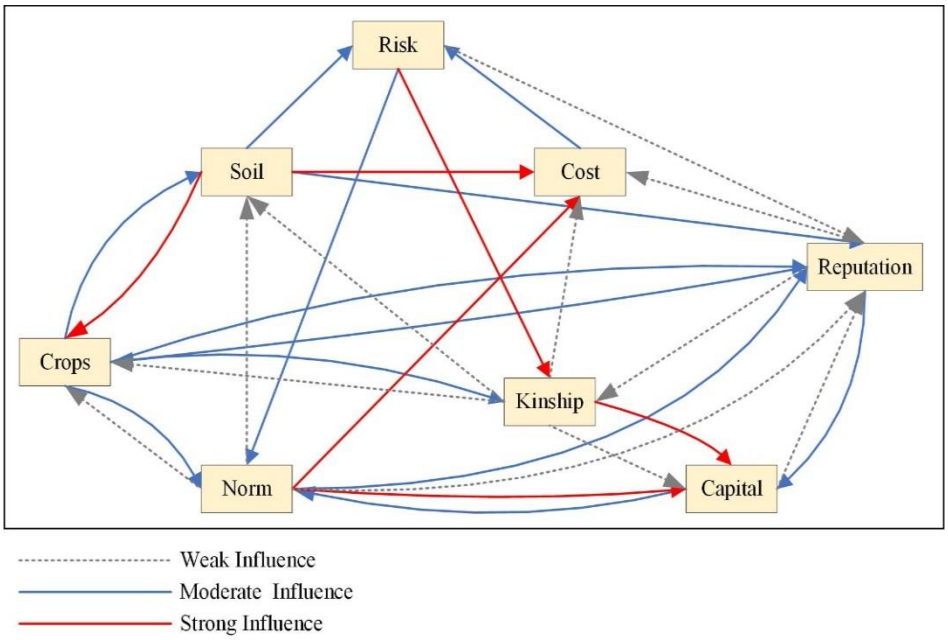

FIGURE 5
DIRECT EFFECT BETWEEN KEY FACTORS OF SHARECROPPING CONTRACT

As presented in Figure 5, there is a direct relationship between the key factors of sharing cropping contracts in Bali. The strong influence is seen in the influence of soil on crops and costs, risk on kinship, norm on cost and capital, as well as the influence of kinship on capital.

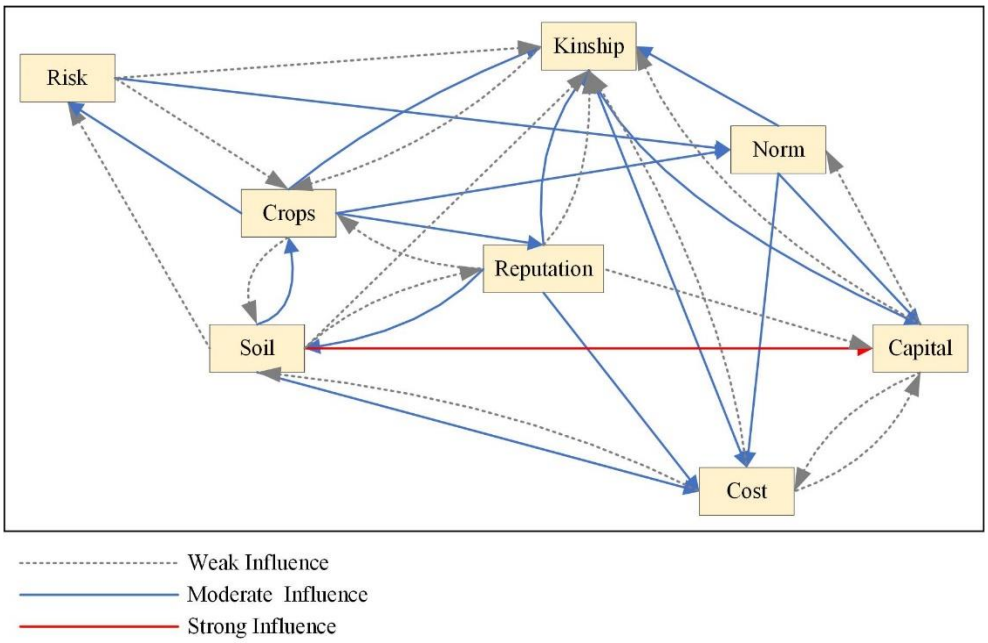

FIGURE 6
INDIRECT EFFECT BETWEEN KEY FACTORS OF SHARECROPPING CONTRACT

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Furthermore, the indirect influence between the key factors of sharecropping contracts in Bali is presented in Figure 6. Based on Figure 6, it can be seen that there is a strong indirect effect on the effect of soil on capital.

Furthermore, Figure 7 shows changes in the ranking of variables based on influence and dependence. This change describes the position of the variable ranking in the initial conditions (MDI-matrix of direct influence) and after iteration with MDII (matrix of indirect influence).

Influence

Rank	Variable	Variable
1	6-Norm	8-Reputation
2	8-Reputation	6-Norm
3	1-Soil	2-Crops
4	2-Crops	1-Soil
5	5-Risk	5-Risk
6	7-Kinship	7-Kinship
7	4-Capital	4-Capital
8	3-Cost	3-Cost

Dependence

Rank	Variable	Variable
1	3-Cost	3-Cost
2	4-Capital	4-Capital
3	2-Crops	6-Norm
4	6-Norm	2-Crops
5	7-Kinship	7-Kinship
6	1-Soil	8-Reputation
7	8-Reputation	1-Soil
8	5-Risk	5-Risk

FIGURE 7
INDIRECT EFFECT BETWEEN KEY FACTORS OF SHARECROPPING CONTRACT

Figure 7 shows a shift in the order of several variables based on influence. Like the social norm variable which was previously in the first order, the most influential variable after iteration by taking into account the indirect influence factor, the social norm variable became the second order. Likewise, the productivity and soil quality factors, which were previously ranked third, dropped to fourth. Meanwhile, there are two factors that have increased position as an influential variable, namely reputation which was previously ranked second, but after the indirect influence factor became the most influential factor. The increase in ranking is also in the variable types of food crops, which were previously ranked fourth, rose to rank three. However, when viewed from the top position, remains between social norms and reputation which is the most influential variable. This is support to the findings of Ellickson (1989); Bellemare (2012) and Huffman & Just (2004), which illustrated that areas such as Bali Province which are in developing countries were still affecting by reputation and social norms derived from local culture even though modernization has occurred on this island. Information on a person's reputation is very easy to obtain in a social system that is still very traditional and has strong social norms such as on the island of Bali. It is illustrated that areas such as the Province of Bali which are located in developing countries are still affected by the reputation and social norms. Strong social norm could decrease the cost of landowner.

Figure 7 also shows that there is a shift in the order of several variables based on dependence. Variables of food crops as well as productivity and soil quality decreased in dependence rank after interaction with indirect effects. Meanwhile, social norms and reputation have actually increased in rank. However, on the dependency rating, both before and after interactions with indirect effects, it is known that costs and financial and capital positions are consistently at the top of the rankings.

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CONCLUSION

Based on the identification results, it is known that there are eight key factors or variables in the sharing contract in Bali. The variables included as key drivers are risk as well as productivity and land quality, while reputation, norms, types of food crops, and kinship are relay variables. The cost and financial position and capital are depending variables. While the variables included as key drivers are the dominant factors that have the most influence on sharecropping contracts in Bali are social norms and reputation. Meanwhile, the dominant factors that are most dependent are costs as well as financial position and capital.

Therefore, it can be recommended that the actors of sharecropping contracts in Bali pay attention to the role and position of each variable, especially variables that have a large influence, such as risk as well as productivity and soil quality. However, in agriculture (especially food crop agriculture), land quality plays a very important role. The government should also focus on sharecropping contracts to get attention to be documented and also given legality to norms to ensure sustainability, this is very important because this system is included as an intangible cultural heritage, this has been in traditional manuscripts since centuries ago, even before invaders came to the island of Bali. The debate about share contracts continues and remains interesting and an option for actors in developing countries. For this reason, it is necessary to carry out further testing of our findings from developing countries and having very complex traditional institutions and cultures. It is very important to remap the position of variables in other regions or other countries that have different cultures and institutional systems such as Indonesia, different cultures and institutions could generate different choices and behaviors.

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