

## Research article

# Collaborative Governance Pentahelix Model in Building Commerce Institutions for Coffee Agroforestry in West Java

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**Abstract.**

The challenge of implementing the Social Forestry Program is how to involve all stakeholders in the development of the three social forestry management areas, namely: institutional management, forest area management and business management. Doing so would enable the main objectives of the program to be achieved, specifically promoting the sustainability of the forests and prosperous communities. An initial survey was conducted which showed that the leading commodity of social forestry, which is coffee agroforestry, has not had a significant impact on the welfare of farmers. In addition, the related parties in the agroforestry coffee trade system have not been optimally involved in realizing the independence of the Forest Farmer Group (KTH), especially in managing their businesses. This study aimed to identify and analyze these problems, so as to provide alternative solutions in improving the governance of agroforestry coffee businesses in West Java Province, based on the pentahelix model of collaborative governance. The researchers sought to identify the inhibiting and supporting factors of collaboration as well as the role of stakeholders, so that a more effective collaboration model could be formed. This study used qualitative methods with a descriptive participatory approach. Data were collected through in-depth interviews, field reviews and document analysis. According to the findings, to collaborate in establishing governance institutions for the coffee agroforestry trade in West Java, the government is expected to involve the private sector, academia/universities, civil society/NGOs and the mass media. Each stakeholder has a key role in synergizing their duties, functions and authorities. It was identified that the main keys to collaborative governance are effective communication, optimal multi-stakeholder participation and strong leadership. The interaction between the pentahelix stakeholders can be used as a collaborative governance model in building agroforestry coffee business governance institutions in West Java Province, which can then be replicated throughout Indonesia, and become an alternative policy in developing social forestry business management in the future.

**Keywords:** social forestry, collaborative governance, pentahelix stakeholder, agroforestry coffee

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## 1. INTRODUCTION

The public service system in Indonesia should be based on realizing the country's goals, namely towards a "welfare state". Especially with the changes in the world order that are happening today. Since the COVID-19 pandemic, according to statistical data, especially in rural areas, the current poverty rate has increased to 13.10% or around 15.36 million people (BPS data: Susenas, March 2021). Therefore, development policies that are caring, adaptive, inclusive, participatory and collaborative are needed, so that they are able to transform to these fundamental changes (1)

In an effort to alleviate poverty and minimize social inequality, the Government since 2016 has launched the Social Forestry Program. The Social Forestry Program is intended for poor people in rural areas who live around forest areas and have a direct dependence on forest resources to fulfill their livelihoods. We We all know that poverty around forest areas is classified as absolute poverty, this is due to rural communities having lower incomes than the minimum basic needs, namely the needs of: clothing, food, health, education and housing, as measured by the poverty line standard.

The mandate for the implementation of the Social Forestry Program is carried out by the Ministry of Environment and Forestry (KLHK). Recognizing the difficulty of realizing an economically and businessly independent community through the Social Forestry Program, because the mandate extends beyond the functions, duties and authorities of the Ministry of Environment and Forestry, the program will not be optimal if it is the responsibility of the Ministry of Environment and Forestry alone. Public policies that are adaptive, participatory and collaborative between stakeholders are needed in their implementation.

Specifically, social forestry farmers' commodities that have high economic value but have not been able to become a lever to increase their welfare are agroforestry coffee commodities. Inadequate level of knowledge and skills also contributes significantly to the development of agroforestry coffee commodity business. So that efforts to increase the product value chain cannot be carried out. This has significant implications for the development of market access.

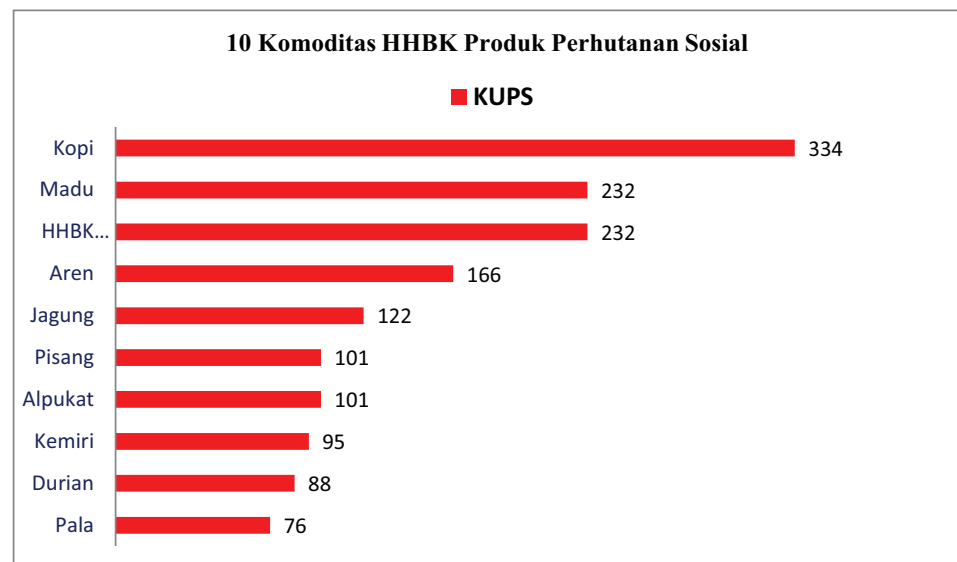
Another crucial problem that is still happening today is that agroforestry coffee farmers are considered not to have a "bankable" business value to be able to access capital. This has caused them to be trapped in a trading system dominated by "big traders", who have ensnared agroforestry coffee farmers for decades. The existence of deep-rooted economic snares and tends to be permanent causes the decline of

agroforestry coffee farmers. (source: results of informal interviews with agroforestry coffee farmers in several social forestry locations, 2019 - 2021).

The problem of agroforestry coffee farmers is quite interesting to study considering that Indonesia is the fourth largest coffee producing country in the world after the State; Brazil, Vietnam, and Colombia (Source; Ministry of Agriculture, 2020). This shows that coffee commodities in Indonesia have competitiveness in international trade. This should be directly proportional to the increase in the income of agroforestry coffee farmers and changes in the socio-economic structure, especially the increase in community welfare.

Currently, the total coffee production in Indonesia is  $\pm 30\%$  for domestic consumption, while the remaining  $\pm 70\%$  is exported abroad (sumBer: Association of Indonesian Coffee Exporters and Industry, 2019). The following is a table of coffee production from people's plants from 2017-2021.

Statistical data in KLHK also shows a significant increase. Agroforestry coffee farmers who are members of the smallest business unit, namely the Social Forestry Business Group (KUPS) also showed a relatively highest increase. The following is data related to KUPS throughout Indonesia.



**Figure 1:** Data on 10 Non-Timber Forest Product Commodities (NTFPs) Social Forestry Products. (Source: Directorate General of PSKL – KLHK, 2020).

Determination of research location in West Java Province by considering several things as follows:

1. The West Java Provincial Government has established a Working Group for the Acceleration of Social Forestry (PPS) of West Java Province through a decree.

TABLE 1: Smallholder Coffee Production in 2017 - 2021.

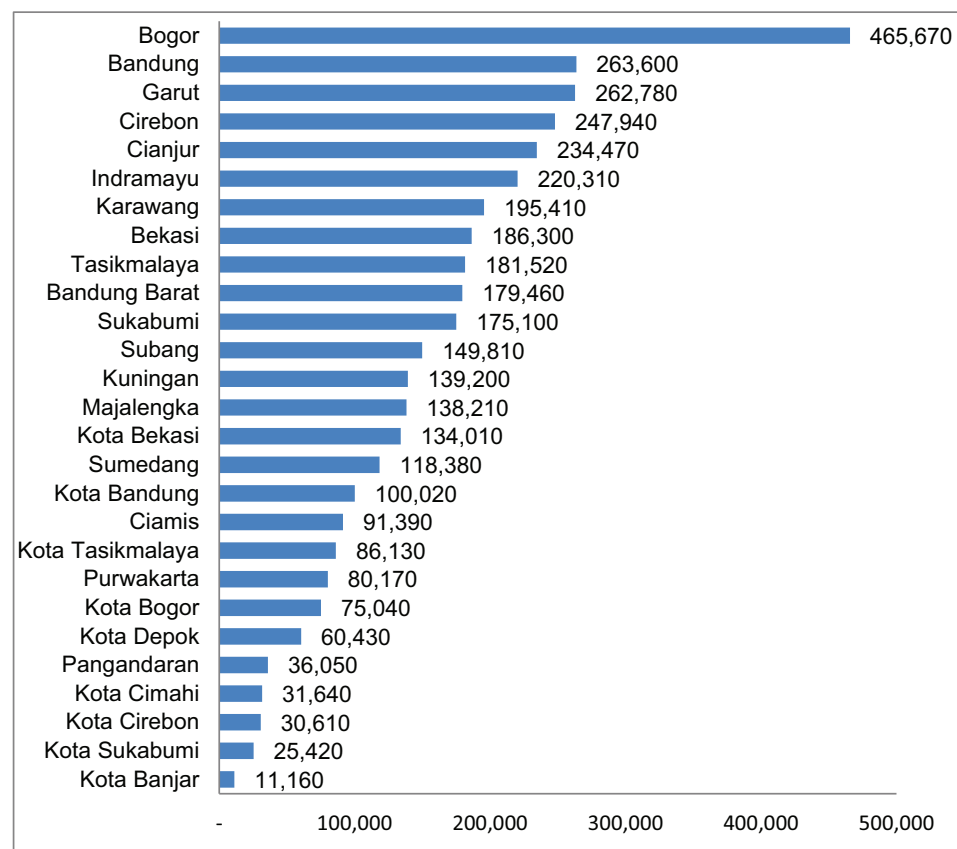
| No | province           | Thousand tons/year |                |                |                |                |
|----|--------------------|--------------------|----------------|----------------|----------------|----------------|
|    |                    | 2017               | 2018           | 2019           | 2020           | 2021           |
| 1  | Aceh               | 68,493             | 70,774         | 72.652         | 73.411         | 73.674         |
| 2  | North Sumatra      | 67,544             | 71.023         | 74.922         | 74.997         | 74.512         |
| 3  | Boast              | 17,553             | 18.452         | 15,316         | 12,264         | 16,337         |
| 4  | Riau               | 2.857              | 3.029          | 2,588          | 2.410          | 2,500          |
| 5  | Riau Islands       | 0                  | 0              | 0              | 0              | 0              |
| 6  | Jambi              | 14,395             | 15,461         | 16,393         | 18,713         | 19,718         |
| 7  | South Sumatra      | 184.166            | 193.507        | 191,081        | 191,081        | 188,760        |
| 8  | Kep. Babylon       | 4                  | 9              | 11             | 17             | 17             |
| 9  | Bengkulu           | 58,971             | 60,346         | 62,567         | 62,704         | 69,861         |
| 10 | Lampung            | 107.219            | 110,597        | 117.111        | 118.149        | 115,689        |
| 11 | DKI Jakarta        | 0                  | 0              | 0              | 0              | 0              |
| 12 | West Java          | 16,904             | 21.119         | 21.014         | 22,372         | 22.814         |
| 13 | Banten             | 2,609              | 2,564          | 2,558          | 2.183          | 2.156          |
| 14 | Central Java       | 11.196             | 20,686         | 21.732         | 20,922         | 15.136         |
| 15 | DIY                | 417                | 483            | 513            | 534            | 550            |
| 16 | East Java          | 14,711             | 14,529         | 19.157         | 18,498         | 18,675         |
| 17 | Bali               | 13,570             | 15,243         | 15.255         | 15,300         | 15,759         |
| 18 | NTB                | 4,865              | 5.058          | 5.369          | 5.855          | 5.822          |
| 19 | NTT                | 21,468             | 23,737         | 24,088         | 24,238         | 24,921         |
| 20 | West Kalimantan    | 3.688              | 3.617          | 3,802          | 3,729          | 3,630          |
| 21 | Central Kalimantan | 410                | 397            | 405            | 394            | 372            |
| 22 | South Kalimantan   | 1.569              | 1,517          | 1.349          | 1,291          | 1,360          |
| 23 | East Kalimantan    | 325                | 297            | 224            | 225            | 198            |
| 24 | North Kalimantan   | 213                | 173            | 174            | 179            | 177            |
| 25 | ignite             | 3.478              | 3,892          | 3,730          | 3,705          | 3,697          |
| 26 | Gorontalo          | 200                | 165            | 139            | 139            | 160            |
| 27 | Central Sulawesi   | 2,688              | 2.817          | 2,588          | 2,594          | 2,622          |
| 28 | South Sulawesi     | 33,486             | 34,716         | 34,665         | 33,728         | 36.014         |
| 29 | Sulbar             | 3.308              | 3.198          | 4.132          | 4,300          | 4.331          |
| 30 | Sultra             | 2,668              | 2,492          | 2,765          | 2,798          | 2,762          |
| 31 | Maluku             | 397                | 400            | 411            | 394            | 401            |
| 32 | shame              | 88                 | 10             | 14             | 15             | 8              |
| 33 | Papua              | 2.503              | 2,742          | 2,789          | 2,792          | 2,777          |
| 34 | West Papua         | 1                  | 1              | 1              | 2              | 2              |
|    | Average            | <b>717,962</b>     | <b>756,051</b> | <b>752,511</b> | <b>753,941</b> | <b>765,415</b> |

Source: Directorate General of Plantations, Ministry of Agriculture 2021

Governor of West Java No. 522/Kep-410-Rek/2020, so that there has been a strong commitment by the Provincial Government in encouraging collaboration between relevant stakeholders in supporting social forestry business governance, especially coffee agroforestry.

2. The quality of agroforestry coffee commodities in several locations in West Java Province is in the medium to high/premium scale.
3. West Java Province is the highest producer of smallholder coffee on the island of Java (Table 2) and agroforestry coffee is the highest KUPS commodity in the Social Forestry Program (Figure 2)

Forest farmers in Java (including in West Java Province) on average only manage land in the range of  $\pm 0.5$  ha per head of household. Narrow land tenure/use is considered to be the main factor that contributes to the poverty-vulnerability rate. It is estimated that forests on the island of Java are surrounded by  $\pm 6,807$  villages with a total poor population of 13,410,384 families ( $\pm 30\%$  of the population of Java) (BPS, 2015).



**Figure 2:** Number of Poor Population by Regency/City of West Java Province. (BPS West Java Province, 2020).

This illustrates the importance of building institutions in the governance of the coffee agroforestry trade, in order to protect farmers, who are still controlled by the free market which marginalizes their rights in fair trade (2)

The following is the identification of the problems in this research:

TABLE 2: Production of Coffee Plants in West Java Province.

| district /City     | Coffee Plant Production (Tons/Year) |          |         |                        |       |      |                        |       |      |
|--------------------|-------------------------------------|----------|---------|------------------------|-------|------|------------------------|-------|------|
|                    | Plantation People                   |          |         | Plantation Private Big |       |      | Plantation Big Country |       |      |
|                    | 2018                                | 2019     | 2020    | 2018                   | 2019  | 2020 | 2018                   | 2019  | 2020 |
| Bogor              | 2962.00                             | 3854.37  | 3854.00 | 0.00                   | 2.16  | 2.00 | -                      | 0.00  | -    |
| Sukabumi           | 117.00                              | 166.64   | 182.00  | 178                    | 46.30 | 4.00 | -                      | 0.00  | -    |
| Cianjur            | 773.00                              | 2384.20  | 384.00  | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Bandung            | 5401.00                             | 6798.21  | 298.00  | 0.00                   | 0.00  | 0.00 | -                      | 27.29 | -    |
| Garut              | 2464.00                             | 2949.00  | 249.00  | 0.00                   | 0.00  | 0.00 | -                      | 1.61  | -    |
| Tasikmalaya        | 2740.00                             | 149.91   | 149.00  | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| nice               | 167.00                              | 163.95   | 964.00  | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Brass              | 780.00                              | 1286.31  | 852.00  | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Cirebon            | 0.00                                | 0.00     | 0.00    | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Majalengka         | 202.00                              | 230.33   | 230.00  | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Sumedang           | 624.00                              | 955.58   | 899.00  | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Indramayu          | 0.00                                | 0.00     | 0.00    | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Subang             | 491.00                              | 545.00   | 545.00  | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Purwakarta         | 174.00                              | 189.22   | 189.00  | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Karawang           | 207.00                              | 207.20   | 218.00  | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Bekasi             | 1.00                                | 0.04     | 0.00    | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| West Bandung       | 459.00                              | 990.10   | 990.00  | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Pangandaran        | 267.00                              | 268.60   | 269.00  | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Bogor city         | 0.00                                | 0.00     | 0.00    | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Sukabumi City      | 0.00                                | 0.00     | 0.00    | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Bandung            | 0.00                                | 0.00     | 0.00    | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Cirebon City       | 0.00                                | 0.00     | 0.00    | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Bekasi city        | 0.00                                | 0.00     | 0.00    | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Depok City         | 0.00                                | 0.00     | 0.00    | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Cimahi City        | 0.00                                | 0.00     | 0.00    | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Tasikmalaya City   | 4.00                                | 4.55     | 5.00    | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| Banjar City        | 5.00                                | 6.15     | 6.00    | 0.00                   | 0.00  | 0.00 | -                      | 0.00  | -    |
| West Java province | 17939.00                            | 21298.37 | 2083.00 | 184.00                 | 48.47 | 6.00 | -                      | 28.90 | -    |

**BPS West Java Province, 2020**

1. There is no institutionalized coffee trade management, and so far, only through the "free market", so that farmers are marginalized because they have no bargaining power in trading their commodities.
2. The integration of on-farm activities (forest area processing) and off-farm activities (outside cultivation and production activities in forest areas), which are directly

related to post-harvest management, (eg product packaging, product rebranding, IT-based product marketing, namely digital marketing , transportation / expedition, and so on). This requires the development and development of forest product commodity-based industries, in the form of superior product centers on a regional, national, and international scale, one of which is the leading commodity of social forestry, namely coffee agroforestry.

3. It is difficult for agroforestry coffee farmers to get access to capital, because they are considered unbankable. So the practice of lenders/middlemen thrives. It is proven that in several KTHs it is still found that this practice dominates most of the agroforestry coffee trade chain.
4. The low level of knowledge and skills of agroforestry coffee farmers in managing their commodities, starting from plant cultivation, to post-harvest management. So that the increase in added value of agroforestry coffee commodity products is not optimal.

This research raises several research questions, which are projected to answer the challenges in building agroforestry coffee business governance institutions in West Java Province, namely:

1. What are the problems that cause agroforestry coffee business governance in West Java Province to not run effectively, so that it has not had an impact on improving farmers' welfare?
2. What are the inhibiting factors that have caused the role of the government and related stakeholders to be ineffective, and what are the supporting factors that can be optimized so that the role of the government and related stakeholders can be more effective in improving the governance of the coffee agroforestry trade in West Java Province?
3. What is an effective collaborative governance model in the governance of the coffee agroforestry trade in West Java Province?

While the objectives of this research are:

1. Identifying the problems of agroforestry coffee trading system in West Java Province, which have not had a positive impact on improving the welfare of farmers.

2. Identify and analyze the inhibiting and supporting factors of the role of the government and related stakeholders in efforts to improve the governance of the coffee agroforestry trade in West Java
3. Develop an effective pentahelix collaborative governance model in the governance of the coffee agroforestry trade in West Java Province

There are two benefits in this research, namely academic benefits and practical benefits. Academic benefits, it is hoped that this research is the development of public administration science, where collaborative governance is one of the characteristics of implementing good governance. Another benefit of this research can also be used as a source of reference for other researchers to develop new methods towards good governance.

While the practical benefits, the results of this study can be used as recommendations for evaluating government policies in improving the governance of the coffee agroforestry trade, as the Government's efforts to protect farmers' rights. Collaborative governance is basically an instrument in uniting stakeholders by optimizing their roles, functions and authorities, namely: Government/Local Government as implementing program/activity mandates, private parties/business actors, civil society/NGOs, academics/universities and the media mass as a participatory function in a collective forum with other public institutions. The involvement of the parties in the consensus is in order to achieve a common goal that is oriented towards improving the governance of the coffee agroforestry trade.

## 2. THEORITICAL REVIEW

Past Research:

Public services through the collaborative governance pentahelix model in Indonesia have never been carried out in the forestry sector with multi-stakeholders in multi-level governance. Some of what has been done, especially in the field of tourism, is still limited to the provincial and district/city government levels. Not yet integrated, with multi-stakeholder involvement, especially mass media, both mainstream and electronic. The research is not yet based on information technology (both as "tools" and database management). With the establishment of database management, it is hoped that collaborative governance can be sustainable, and stakeholder involvement can also grow.

Several previous studies that have been carried out have not yet developed a collaboration model in building inter-stakeholder and multi-level institutions in an integrated



manner and involve all elements that can synergize, including: Central Government, Regional Government, BUMN, private sector, academics/universities, civil society and mass media.

*Collaborative Governance Pentahelix Model:*

*Collaborative Governance* is the right instrument for advocating for public problems (3), becoming a policy that favors the community, because Collaborative Governance creates "common ownership" of the problem. Various actors have different perspectives in viewing a problem. It is not easy to create an understanding among the roles of actors in collaboration. Collaborative Governance acts as a mediator so that actors can formulate a common understanding on a problem (4). Collaborative Governance is a forum used to achieve a common goal in synergy and implementation of government programs (5).

*Collaborative governance* basically it is one of the instruments in uniting stakeholders in the form of the Government as the holder of the activity mandate (6); private parties who can be represented by business actors; community/civil society/NGO that has a policy advocacy function; academics/universities as a source of scientific development and innovation, as well as the mass media as an effective driving factor in policy change, as well as playing an active role and being involved in consensus-oriented decision making in the implementation of public policies and management of public assets (7) (Ansell & Gash, 2008) .

The effectiveness of collaborative governance in the trade system of agroforestry coffee products is determined by a minimum of three aspects, namely (7):

1. Formulation of a collaboration model in building agroforestry coffee business governance institutions that are formed based on a participation pattern in the form of clear rules in accordance with the duties, functions, and authorities as well as the roles of actors in collaborating
2. Building an effective collaboration process, taking into account the commitment of the parties, with basic principles in the form of awareness of mutual need/dependence, openness, sharing of responsibilities and mutual understanding of the functions of the parties, as well as having a clear mission to establish strategic planning, and being able to negotiate in reaching an agreement, considering the interests of the various parties
3. The importance of the role of leadership that is facilitative, so that it really supports the success of activities in collaboration.

The following is a table of stakeholder mapping with roles and functions that can be advocated in building agroforestry coffee business governance institutions.

Multi-sectoral, multi-stakeholder and multi-level involvement in a collaborative framework to encourage policy recommendations, so that they can be implemented for innovative business development, specifically in efforts to improve agroforestry coffee business governance, as set out in the framework below.

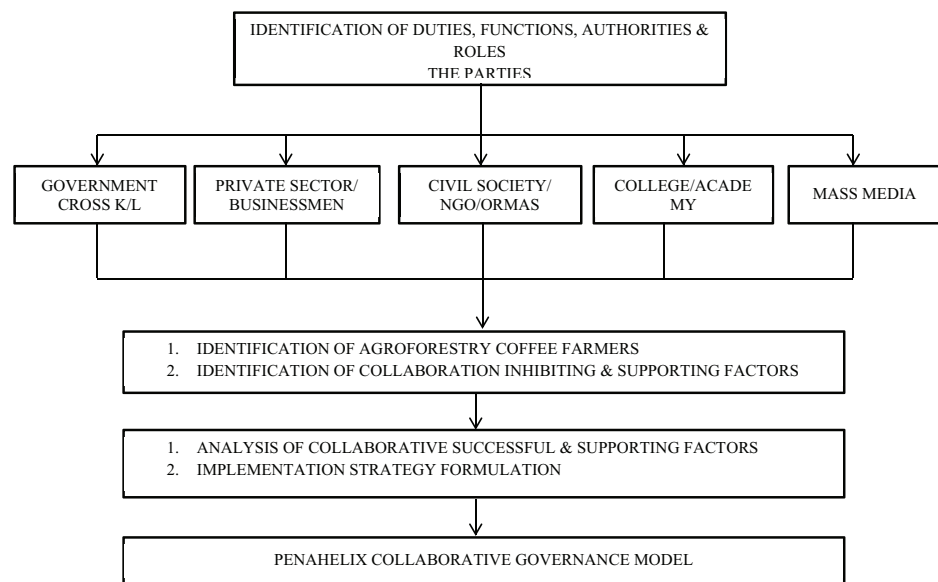


Figure 3

### 3. FRAMEWORK OF THINKING

In this study, the research steps are as follows:

1. Identify the problems of coffee farmers and their trading system problems, and look for correlations with the welfare of coffee farmers in agroforestry
2. Identify the duties, functions and authorities as well as the roles of pentahelix elements, namely: Ministries/Institutions/Local Governments, Private Sector in this case are agroforestry coffee business actors, academics and researchers, NGOs/ORMAS/communities who are civil society and mass media.
3. Identify the inhibiting and supporting factors of pentahelix collaboration in building agroforestry coffee business governance institutions
4. From these two points (2) and (3) will be analyzed the inhibiting and supporting factors of collaboration as well as optimizing the role of each pentahelix element so as to find an effective implementation strategy in the collaboration model.

TABLE 3: Mapping of Stakeholders according to Duties, Functions, Authorities and Roles in Collaborative Governance Pentahelix Model in Building Agroforestry Coffee Business Governance Institutions.

| THE PARTIES  | DUTIES & FUNCTIONS IN COLLABORATION   | ROLE IN COLLABORATION   |
|--|---|---|
| <b>CENTRAL GOVERNMENT</b>  |   |   |
| <b>KLHK internal</b>   |   |   |
| Directorate General of PSKL (Social Forestry and Environmental Partnership)  | Implementing Social Forestry Program  | Align the duties and functions of each ministry/institution.  |
| Secretariat of the Directorate General of PSKL   | Social Forestry Program and Activity Planner  | Government Policy Draft in strengthening collaboration  |
| Directorate of Social Forestry Business Development and Customary Forest   | KUPS builder  | Capacity building in mentoring coffee agroforestry business management  |
| environmental partnership directorate  | organizer of social forestry assistance   | business management assistance  |
| <b>External KLHK (SK. Coordinating Minister for Maritime Affairs and Investment No. 126/2021 concerning the National Working Group for the Acceleration of Social Forestry Management)</b> |   |   |
| Coordinating Ministry for Maritime Affairs and Investment  | Coordinator in collaboration  | Synergy of tasks, functions and authorities in collaboration between K/L/D  |
| Ministry of Agriculture  | Facilitation of agroforestry (seeds, fertilizers, agricultural extension workers) and processing of coffee products                                   |   |
| Ministry of Internal Affairs   | APBD allocations related to PS as contained in the Provincial and Regency RPJMD   |   |
| Ministry of Villages/PDTT  | Utilization of village funds and village assistants   |   |
| Ministry of Cooperatives & SMEs  | Assistance for SME development, and Facilitation of the formation of Cooperatives   |   |
| Ministry of Industry   | Technical guidance and facilitation of licensing towards micro-macro-scale industries   |   |
| Ministry of Trade  | Technical guidance and facilitation of trade licensing; trademarks, product rebranding and digital marketing, agroforestry coffee certification, etc. |   |
| <b>West Java Provincial Government (Pokja PPS West Java Province)</b>  |   |   |
| forestry Service   | PS supervisor at the local government level   | Advocating local governments, BUMN/BUMD, private parties, NGOs, academics, mass media to implement alternative policies drawn up by the central government. Advocating the local government to allocate a budget (APBD) for the implementation of alternative policies. Advocating local governments, BUMN/BUMD, private parties, NGOs, academics, mass media to implement alternative policies in accordance with their respective main tasks and functions. |

TABLE 3: Table (continued).

|   |  |   |
|---|--|---|
| Forestry Service Branch   | PS builder at the site level   |   |
| Department of Cooperatives & SMEs   | Cooperative formation and development  |   |
| Village Community Empowerment Service   | Utilization of village funds in PS business management   |   |
| Department of Agriculture   | Assistance for seed & fertilizer facilitation, agricultural technical guidance, agricultural equipment facilitation  |   |
| Department of Industry and Trade  | Facilitation of business meeting assistance to bring together Farmers (Producers) and Off Takers (Consumers)         |   |
| <b>PRIVATE PARTIES/Agroforestry Coffee Businesses</b>                                 |  |   |
| Start Up Agroforestry Coffee Business Actor   | Facilitating capacity building in export standard coffee certification   | Fostering KTH in improving the quality of coffee products through certification, cultivation, and post-harvest processing.                                |
| PHRI West Java Province   | use and promote the advantages of coffee agroforestry to tourists  |   |
| <b>Mass media</b>   |  |   |
| Tempo Newspaper   | Encouraging public policies in improving regulations, related to the agroforestry coffee trade system                | Regarding the coffee trade system to encourage policies to be implemented in the regions And play a role in the promotion of agroforestry coffee products |
| <i>Forest Digest Magazine</i>   | Encouraging public policies in improving regulations, related to the agroforestry coffee trade system                |   |
| <b>CIVIL SOCIETY/NGO/ORMAS</b>  |  |   |
| DKN (National Forestry Council)   | Encouraging policies in the forestry sector in the trade system of forestry products                                 | Advocating the community regarding alternative policies in order to improve the governance of the coffee agroforestry trade                               |
| DPD HKTI West Java  | Building food security, farmers' independence and participating in improving their welfare                           |   |
| Social Forestry Activist NGO (Kemitraan Kemitraan, FKKM)                              | PS business facilitation   |   |
| Foreign NGOs (ICRAF, WRI)   | PS business institutional facilitation   |   |
| <b>College/Academic</b>   |  |   |
| IPB Department of Forestry Management   | Research and community empowerment related to the cultivation and enhancement of the coffee agroforestry value chain | Innovation and development of agroforestry coffee processed products  |
| P4W – PPLM IPB  | Research and development   | Agroforestry coffee product development and innovation  |
| <b>FOREST FARMING GROUP (KTH) as the beneficiary</b>                                  |  |   |
| KTH with KUPS Silver, Gold and Platinum classification (3 LMDH in West Java Province) | As a subject of collaborative governance in PS business management towards independent business KTH                  | Take an active role in improving the quality of agroforestry coffee commodities   |

(SK. Pokjanas PPPS and SK. Pokja PPS West Java Province)

5. Designing an effective collaboration model in building coffee agroforestry institutions in West Java Province.

This research framework uses the pentahelix model in the pattern of interaction between the parties involved in the collaboration. The involvement of the five elements of the stakeholders in addition to referring to the SK. The Coordinating Minister for Maritime Affairs and Investment on the National Working Group (Pokjanas) for the Acceleration of Social Forestry Management (PPPS), also uses the process of interacting with the various interests of the pentahelix elements based on the available resources, in the form of authority/policy/regulation, research and development/innovation, investment, capital, market share and advocacy in changing/improving policies.

### 3.1. Data collection technique

TABLE 4: Research Data Collection (8).

| No | Data collection technique | Resource persons/supporting data/documentation  |
|----|---------------------------|---|
| 1  | Interview                 | Policy makers (K/L/D) Director General of PSKL (Social Forestry and Environmental Partnership) Assistant Deputy for Forestry Planning & Environmental Management, Coordinating Ministry for Maritime Affairs and Investment Head of Office. Environment & Forestry Prov. West Java<br><br>Stakeholders in collaboration: Private party: DPD PHRI West Java Universities/academics: Professor of SDH Management: (IPB), Research Institute (P4W - IPB), ICRAF <i>civil society</i> (NGO/Community): LMDH Mandalagiri Kab. Garut, LMDH Puncak Lestari, Kab. Bogor, LMDH Bukit Amanah Kab. Bandung, FKMM (Community Forestry Communication Forum), NGO Partnership – Partnership, ORMAS: DPD HKTJ West Java Mass Media : Tempo Magazine and Forest Digest Magazine |
| 2  | Field Overview            | Research object: supply chain of coffee agroforestry at the research location<br><br>Research subjects: agroforestry coffee farmers in the research location  |
| 3  | Document review           | Related document: Supporting documents as research analysis material Stakeholder institutional data (Relevant K/L Laws and Regulations) Village development index data (BPS Sensenas, 2020) Data on Identification and Analysis of Villages Around Spatial-Based Forest Areas in 2019 (BPS data source) Indonesia Food Security Index 2019 data (data source: Food Security Agency - Ministry of Agriculture) Books and research articles related to coffee and its trading system that have been carried out   |

### 3.2. Data analysis technique

Data analysis in collaborative governance pentahelix model research in building agroforestry coffee business governance institutions with the following stages (9):

1. The results of field visits and in-depth interviews with stakeholders are grouped into data that is ready to be analyzed using the initial method in the form of desk study analysis;
2. Furthermore, the data from the desk study analysis that has been grouped into the tasks, functions, authorities and roles of each stakeholder are used as material for review in brainstorming through FGD forums to accommodate all opinions and input from social forestry experts, policy makers and actors, both agroforestry and coffee farmers. social forestry assistants who have been successful in their mentoring for later analysis of their roles in the pentahelix collaboration;
3. Formulation and preparation of collaborative governance models in building agroforestry coffee business governance institutions.

This study analyzes the collaboration process between stakeholders which is influenced by three collaboration dimensions, namely; starting conditions, institutional design, and facilitative leadership (7). In the collaboration process, these three dimensions are analyzed, so that an effective collaboration model can be found in building agroforestry coffee business governance institutions.

The selection of resource persons in this study was based on the criteria of a collaborative research approach in accordance with their expertise and professionalism as well as various characteristics of the actors in collaboration from pentahelix stakeholders (government/local government, private sector, civil society/NGO/ORMAS, academics/universities and mass media). ). With data and information, stakeholders will be able to synergize issues related to obstacles and challenges as well as opportunities in collaboration.

### 3.3. Research Instruments

The research instrument in qualitative research is the researcher himself, assisted by several interview guidelines, photographic and video documentation tools in face-to-face meetings and online meetings as well as supporting data in the form of previous research documents, regulations / laws and regulations as a basis and report results. other related activities and programs (8).

Researchers also prepared interview guidelines during field visits to The research locations are: Forest Village Community Institute (LMDH) Puncak Lestari, North Tugu Village, Cisarua District, Bogor Regency, Mandalagiri LMDH, Rancasalak Village, Kedungora District, Garut Regency, and LMDH Bukit Amanah Campakamulya Village, Cimaung District, Bandung Regency.

Interview guidelines are prepared according to the background and duties and authorities of each resource person. The interview guide is used as a tool to explore information related to collaboration that can be carried out between stakeholders in building agroforestry coffee business governance institutions. Information from the interviews was processed into research data which then resulted in stakeholder analysis in this study, through the process of reduction, classification of data and information, as well as drawing conclusions and verifying data as material in solving research problems (9).

### 3.4. Research Validation

The results of this study are in the form of a model in building agroforestry coffee business governance institutions. Research validation will be carried out when this research is in the final stage by knowing the results that have been analyzed. The validation of the research results model is expected to be in accordance with the concepts presented in the theoretical basis and the results of data analysis taken from the sources of collaboration actors. The collaboration model testing is carried out through several stages, namely:

1. FGD with experts and professionals in the fields of social forestry, forest management and public policy

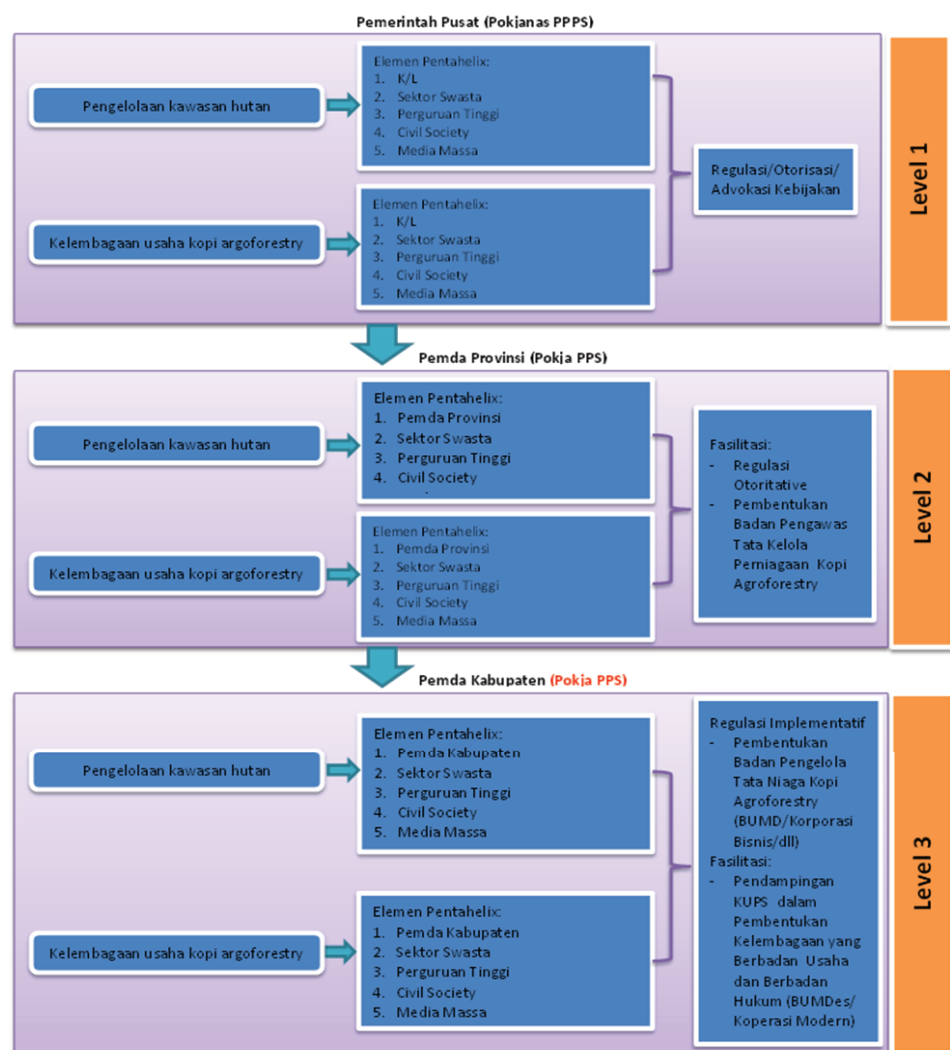
Involving beneficiaries in this case KTH in FGDs to be able to find out the opinions of experts and professionals in building agroforestry coffee business governance institutions.

## 4. RESULTS AND DISCUSSION

Compilation of the pentahelix collaboration model in building agroforestry coffee business governance institutions in West Java Province, which is presented in Figure 4.1., in addition to adjusting to SK. The Coordinating Minister for Maritime Affairs and Investment Number 126/2021 concerning the National Working Group for the Acceleration of

Social Forestry Management also considers the various tasks, functions, authorities and roles of pentahelix elements at several levels of collaboration, especially at the level of governance so that they can be optimized in achieving the common goal of improving governance. manage the coffee agroforestry trade in West Java Province.

This pentahelix collaboration model considers the results of the identification and analysis of agroforestry coffee trading system problems encountered in the field which is then synergized with the duties, functions, authorities and roles of each pentahelix element, according to the available resources. accommodate the identification of problems that exist in agroforestry coffee farmers (10) and the factors that inhibit and support the collaboration of pentahelix elements (11) (12).



**Figure 4:** Pentahelix Collaboration Model in Developing Agroforestry Coffee Business Governance in West Java Province.

The determination of the main and strategic issues is contained in the shared goals of collaboration. The purpose of the collaboration is divided into two main issues,



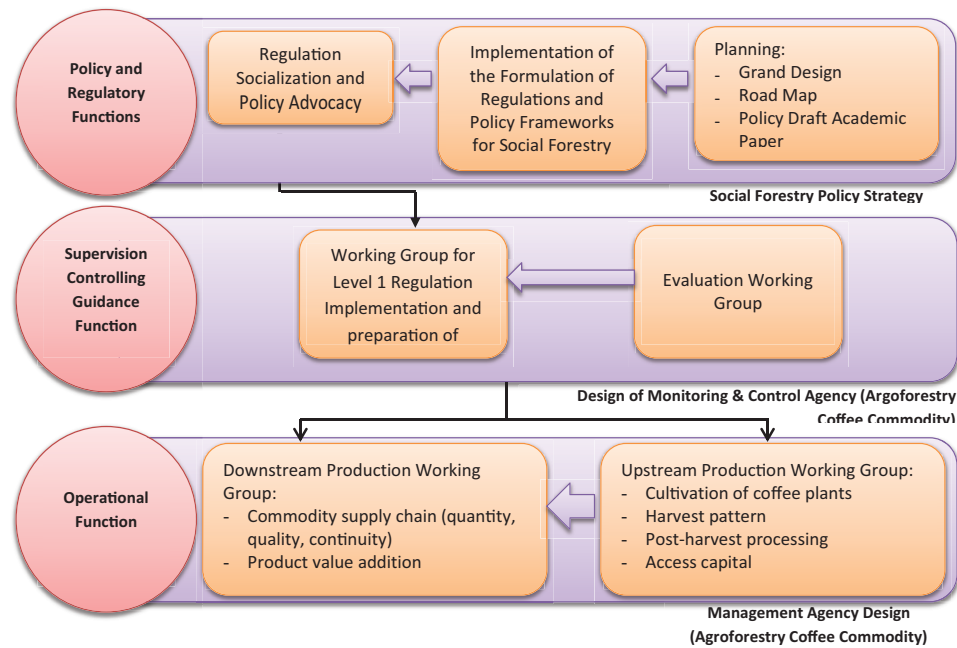
namely: forest area management as an effort to resolve upstream production problems in the agroforestry coffee trade (11) (13) (14) system at the farmer level and agroforestry coffee business institutional management as an effort to solve downstream production problems in the trade system (11) (13) (14). These two main issues are the mainstay of the goal of the pentahelix collaboration.

Upstream and downstream coffee production in agroforestry is used as a strategy in the pentahelix collaboration through several levels of governance. SK based. The Coordinating Minister for Maritime Affairs and Investments recommended several further policies to support the implementation of tasks and authorities for Ministries/Institutions/Regional Governments, so as not to exceed their authority in the implementation of the collaboration process. The pentahelix collaboration model divides three levels of collaboration in governance (15), namely:

1. The pentahelix collaboration at the first level is a collaboration at the Central Government level that functions in the preparation of regulations/authorities/policies related to solving problems of upstream production and downstream production in agroforestry coffee trade governance
2. The pentahelix collaboration at the second level is a collaboration at the provincial government level, has functions and roles in the preparation of regulations/policies, in formulating guidelines for implementing regulations at the central level, and plays a role in facilitating the formation of institutions/agencies in the regions that function as supporting institutions/agencies for coffee trade governance. agroforestry
3. Collaboration at the third level is collaboration at the district government level, has an implementing function in the preparation of technical regulations for the establishment of management and implementing agencies for agroforestry coffee business governance, which plays a role in facilitating the preparation of upstream and downstream business processes for agroforestry coffee production.

The interactions between stakeholders in the pentahelix collaboration presented in Figure 5 are described in their roles at each level of collaboration, namely:

1. The central government together with relevant ministries/agencies (KLHK, Ministry of Agriculture, Ministry of Villages and PDDT, Ministry of Cooperatives & SMEs, Ministry of Trade, Ministry of Industry) formulate policies for forest area management and institutional management of agroforestry coffee businesses at the provincial government level as institutions that have the function of fostering, supervision



**Figure 5:** Interaction Patterns Between Stakeholders in the Pentahelix Model Collaboration in Building Agroforestry Coffee Business Governance Institutions in West Java Province.

and control. Meanwhile, at the district government level, it initiates an institution that functions as a management agency for coffee agroforestry commodities

2. The Regional Government together with related SKPDs (Department of Agriculture, Office of Village Community Empowerment, Office of Cooperatives and SMEs, Department of Industry and Trade) who are members of the Pokja PPS West Java Province implement the central policy by drafting regulations for the establishment of a buffer body/supervisory agency in the governance of the agroforestry coffee trade. in West Java Province
3. The private sector in this case the West Java PHRI and agroforestry coffee business actors play a role in supporting the conservation of conservation areas, business development, and marketing of agroforestry coffee products. The role of the private sector in collaboration starting from upstreaming to downstreaming agroforestry coffee production, together with relevant stakeholders, namely universities/academics, at the third level of collaboration
4. Academics/Universities in assisting the community regarding the tri dharma of higher education, namely: research development and innovation of agroforestry coffee products play a role at the third level of collaboration aimed at upstreaming and downstreaming agroforestry coffee production, which functions in increasing the product value chain

5. The mass media play a role in encouraging policies from the first level to regional policies at the second and third levels. play a role in policy advocacy in improving the governance of the coffee agroforestry trade in West Java Province

## 5. CONCLUSION

1. The problem of the agroforestry coffee trade system in West Java Province has two different characteristics, firstly the cultural problems of farmers related to not being touched by modernization in plant cultivation, to post-harvest commodity processing and market access. Two structural problems, namely the role of the Government/Local Government which is not yet optimal, so that the agroforestry coffee trade system is still through free trade, which of course only benefits traders with large capital.
2. The absence of an agroforestry coffee commodity management agency that regulates supply chains that are oriented towards meeting both national and international markets.
3. The supply chain in this market expansion is oriented towards fulfilling the quantity, quality and continuity of agroforestry coffee commodities.
4. Tasks, functions and authorities that have been isolated and sector-oriented can be reduced and oriented towards increasing the effectiveness and efficiency of institutionalized parties. So that the coffee commodity, which is one of the mainstays of West Java Province, can have an impact on improving the welfare of farmers.
5. The pentahelix collaboration model, which is organized into three levels of governance, is intended to optimize the collaboration process at each level. So that the resources and interests of each element of collaboration can be optimized to achieve a common goal, namely improving the governance of the agroforestry coffee trade.

## 6. RECOMMENDATION

1. The findings in this study, that the role of the parties can be optimized through the synergy of tasks, functions, authorities and multi-stakeholder roles in multi-level bureaucracy (Central Government, Provincial and Regency Governments),

which are oriented towards alternative solutions to problems of upstreaming and downstreaming production in coffee business governance. agroforestry.

2. The interaction between the parties and the community, which was originally one-way/top-down, has now become more participatory. So it is hoped that the optimal role of the parties can encourage the economic independence of agroforestry coffee farmers to be realized.
3. Innovation and increasing the value of agroforestry coffee commodity products are urgently needed. If you want to increase the price of coffee agroforestry commodities. So this is where the role of the parties is very important in building the governance institutions of the agroforestry coffee trade.
4. The importance of integrated planning in building agroforestry coffee business governance institutions at the local government level.
5. Public policy in developing agroforestry coffee business governance institutions is considered important because it will be an alternative solution in protecting coffee farmers from free trade which has been controlled by "unscrupulous" who have harmed farmers, thus creating a "fair trade" for agroforestry coffee farmers.
6. Further research is needed to build economic institutions that are business entities in the governance of the coffee agroforestry trade. Considering that this research is an initial research, so that the research gap can be used in the development of future research

In the future, it is important to develop a political economy policy in the biological natural resource management sector, especially in the forestry sector based on a people's economy through the Social Forestry Program.

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