Community livelihood improvement through social forestry and agraria reform in Indonesia: a critical thought

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Abstract. The existence of a poor community, landless farmers and tenure conflict triggers the government to launch a social forestry (SF) and an agrarian reform (Land Object Agrarian Reform-TORA) program. Both programs should be evaluated periodically. The objectives of the research are to (i) explain the definition of SF and TORA and their target achievement, (ii) accelerate the target achievement of SF and TORA, (iii) analyze the community prosperity before and after SF and TORA implementation, and (iv) formulate a recommendation for the effectiveness of SF and TORA future implementation. The exploration of regulation substances uses content analysis and the explanation of the whole discussion uses the descriptive qualitative method. The research result reveals that the SF program has given management rights at the state forest. Meanwhile, the TORA program has distributed property (land) rights from the state land. Both programs have the same objectives that improve and increase the prosperity of their recipient target; however, both definitions are the difference between the old and the new definition. The good acceleration of both programs is the revision of their recipient target. The prosperity of the community should be enhanced by giving them access to capital, technology, relevant training, and the market. The effectiveness of the SF and TORA program can be achieved by implementing simple and appropriate actions for their six pilars (economical, social, ecological, professional, technical, and cultural) of target achievement.

1. Introduction
Conflicts of natural resource utilization occur across all over the world. Most of the conflicts happened in developing countries. These conflicts often involved many actors with different interests for using the resources. Such conflicts in African countries tend to increase [1]. Meanwhile, natural resource conflict, especially in forestry sector, has run for a long period and has never been solved. Conflict in the forestry sector in Asia tends to increase because various stakeholders differ in perception and interests for managing the shortage of natural resources [2].

Agrarian Reform Consortium (Konsorsium PembaruanAgraria-KPA) recorded that total agrarian conflict in Indonesia in 2017 was 659 cases at the various regions with a total area of 520,491.9 hectares involving 652,738 households. This number of conflicts increased double compared to the conflict in 2016 [3]. The newest data indicated 241 conflict cases with an area of 624,271 hectares involving of 135,332 households [4]. This figured out that although the number of conflict decreases, the conflicted total area increases. One of causing factors for the agrarian conflict is the policy on agrarian management that less disregard the fairness and prosperity of the community.
KPA also reported the agrarian conflict involving development sectors starting from agriculture to infrastructure sectors[4]. In the forestry sector, tenure conflict appears vertically and horizontally. Vertical tenure conflicts consist of the community and local government[5][6], the community and companies[7][6], the company with government[8] and the local government and central government[9]. Horizontal tenure conflict involves the community and community[10][6], the companies and companies[7][6], and the local government and local government[9].

Both vertical and horizontal tenure conflicts are interested to be explored by a new approach launching by the government i.e. social forestry (SF) and agrarian reform (land object agrarian reform or Tanah Obyek Reforma Agraria-TORA). Bangsawan[11] pointed out that both programs are one of the advanced solutions for tenure conflicts. Those programs require dare and high political calculation. Joko Widodo regime put both policy and program as a priority to solve a gap of the forest and land holdings for triggering the development from the fringe. Both programs have a target of 21.7 million ha consisting of 12.7 million ha for the SF and 9 million ha juta for TORA. Resosudarmo [12] pointed out that the target of both programs was far ambitious and the land distribution was conducted in hurried so that it affected partial support of the schemes, rights and responsibilities, inappropriate site selection and types of forestland being allocated, and insufficient sensitivity for community capacity and local governance.

As an effort to reduce agrarian conflict especially in forest area, the Government has launched SF and TORA programs with different responsible ministries. The SF program is under the control of the Ministry of Environment and Forestry (MoEF) with which its objectives is to increase the prosperity of the community living inside and surrounding forest area and also to find forest sustainable model[13]. Meanwhile, the TORA program is under the management of the Ministry of Agrarian and Spatial Planning/National Land Agency (MASP/NLA) with which its purpose is to reform the agrarian structure that is imbalance and becomes fairer to solve an agrarian conflict and to prosper people after TORA implementation[14].

This paper aims to explain the prosperity improvement of community living inside and surrounding forest areas before and after implementation of the SF and TORA programs. The specific objectives are to (i) explain the definition of SF and TORA and its target achievement, (ii) accelerate the target achievement of SF and TORA, (iii) analyze the community prosperity before and after SF and TORA implementation, and (iv) formulate a recommendation for the effectiveness of the SF and TORA future implementation.

2. Research method
The research uses secondary data related to the SF and TORA program, such as tenure conflict, poor community living inside and surrounding forest area. The achievement of both program targets is obtained by direct browsing to the portal of relevant and responsible institutions. The exploration of regulation substances uses a content analysis[15]. This analysis is for exploring how the regulation involving actors and its substance relates to the SF and TORA programs. The explanation of the whole discussion of such facts, condition, phenomena, and important variables uses a descriptive qualitative method[16].

3. Result and discussion
The result and discussion will be focused on the definition of SF and TORA and its target achievement; efforts to the acceleration of SF and TORA target achievement of SF; community prosperity before and after SF and TORA implementation; and a recommendation for the effectiveness of SF and TORA near future implementation.

3.1. Definition of SF and TORA, and its target achievement
Definition of SF has been described by several social experts from the involvement of the community in a forest management to the given access directly for managing forest. Since the first launching, a social forestry concept was still debatable with various understanding from involved stakeholders[35]. The SF some experts have an opinion that the concept is the only panacea in a social conflict in forest
plantation business and is not viewed as one of the productive businesses economically[17]. However, until now the SF is wrongly recognized by the community, which is a part of TORA program in forest area. Meanwhile, TORA is implemented outside the forest area although a part of TORA area comes from the released forest area.

The SF program is perceived interchangeably with TORA. Actually, both programs differ very clearly from the theory of access[18]. The SF is access given to local community (bundles of power) for managing the forest without any right to own the forests. Meanwhile, the TORA grant both rights of ownership (property) and access to the property for chosen people with set certain criteria.

The Ministry of Forestry in 1984 defined Social forestry as a forest resource management system at state forest area and/or private forest involving local community as a subject and/or a main partner for improving their prosperity and realizing sustainable forest[19]. However, the SF definition changes into sustainable forest management system that is conducted at state forest area or private forest/customary forest managed by local community or customary community as the main actor to improve their prosperity and to balance between environment and social culture dynamic in the forms of village forest (hutan desa-HD), community forest (hutan kemasyarakatan-HKm), community plantation forest (hutan tanaman rakyat-HTR), customary forest (hutan adat-HA) and forestry partnership (kemitraan kehutanan-KK)' (PP. 23 Tahun 2021 tentang Penyelenggaraan Kehutanan Ps. I). The difference between both definitions lies in sustainable forest management, trade off between environment and socio-culture dynamics, and addition of various management forms. A more detailed and complete explanation of five SF schemes can be seen in Resosudarmo[12].

The implementation of SF is actually not a new policy and it has emerged in the year 1976. Nurbya [20]stated that participative forestry development at the first time was launched by Agriculture National Commission in India in 1976. At the moment, community participation was conducted because their livelihood depend mainly on wood and non-wood forest products for either fulfilling their own need or their income source without neglecting its sustainable forest. The theme of community engagement in forest management becomes a central topic in the 8th world forestry congress at Jakarta in the year 1978 with a theme of “forest for people”. This such topic has not been adopted in forest management at the New Order regime that gives more business opportunity to the corporation than the community small scale business[21]. This theme was really adopted by the Bank of Indonesia in 1978 to make a money coin of 100 rupiahs with the theme of “Forest For Prosperity”. However, this theme has been implemented since 1984 in form of SF that its successful implementation relies on land bio-physical features and the social-economic condition of the local community[19]. Forest for people program achieved its escalation at reformation era in 1998, where its implementation has affected tenure conflict either in forest land or in crop estate land. In the forest area is indicated that increased a deforestation rate of 2 million ha/year during 1998-2000[22].

The SF implementation is triggered by tension of land conflict, the need for rights recognition and demand for agrarian reform[23]. Since the government of Kabinet Kerja (2015-2019) the SF starts to be reactivated and the MoEF has allocated a forest area of 12.7 million ha for SF implementation with the target of community living inside and surrounding forest area[20][24][12]. However, the SF target was revised into 4.38 million hectares due to its evaluation result of field implementation[24]. Up to June 15, 2021, the realization of SF is 4,720,474.89 ha involving 1.03 million households and license issued of 7,212 units. It consists of HD (1,869,659.36 ha), HKm (825,574.05 ha), HTR (349,981.58 ha), HA (1,148,192.0 ha) and KK (17,067.90 ha) (goKUPS - Usaha Hutan Sosial).

Agraria reform rearranges the structure of land domination, ownership, usage, and utilization, which is fairer through asset and access arrangement for the prosperity of the people as stated in Presidential Regulation (Perpres) No. 86 the Year 2018 regarding Agraria Reform. This definition differs from the definition written in Decree of Indonesia People’s Advisory Council (TAP MPR RI) Number IX/MPR/2001 regarding Agraria Reform and Natural Resource Management due to the omission of a sentence of continuous process. This omission might be irrelevant with the limitation of (5 years) government working period. In general, agrarian reform poses three main activities, i.e. asset management, access arrangement, and land conflict resolution with the recipient target of landless
community, “gurem” farmers (pose land less than 0.5 ha) and poor community. For the next description, the term of agrarian reform is represented by TORA.

TORA program actually has become a discourse from the Soekarno government to Joko Widodo government. Soekarno government has successfully issued Law No. 5 Year 1960 regarding Basic Regulation of Agrarian (UUPA) that mandates the rearrangement of imbalance agrarian structure into putting more fairness, resolution of agrarian conflict, and people’s prosperity[14]. Soeharto regime has reduced TORA program by achieving a food self-sufficient target[25]. Megawati government has produced the Indonesian Parliamentary Decree (TAP MPR RI) No. IX/MPR/2001 as the highest regulation for agrarian reform program compared to the basic agrarian law (UUPA). Susilo Bambang Yudhoyono regime has designed National Agrarian Reform Program (Program Pembaruan Agraria Nasional) in the year the 2016 without its legality and some of the programs have been implemented as pilot projects[25]. In fact, Joko Widodo government has seriously implemented the TORA with the following indicators: (i) TORA issue has been put in Nawacita Program, (ii) TORA has been written in the National Medium Term Development Plan (Rencana Pembangunan Jangka Menengah/RPJMN) 2015-2019, (iii) TORA becomes an important topic in the discussion of a Statutory Plan of Land, and (iv) issuance of Perpres No. 86 the year 2018 regarding Agrarian Reform [14]. Actually, Perpres No. 86/2018 determines four (4) objectives of TORA program, namely: (i) to reduce poverty level, (ii) to improve community’s access to economic sources, especially land, (iii) to reform the imbalance of land domination, ownership, usage, utilization, and other agrarian sources, (iv) to decrease tenure and agrarian conflicts.

TORA program is a land provision of 9 million ha, which is 4.5 million ha allocated for asset legalization consisting of 3.9 million ha for land certification and 0.6 million ha for land transmigration. The rest is 4.5 million ha allocated for asset distribution consisting of 0.4 million ha from abandoned land and 4.1 million ha from released forest area[26][27][28][12]. Up to August 2020, the realization of asset legalization is 4.98 million ha (110.7%). It comprises (i) community land certification (20.17 million units with a total area of 4.85 million ha) is 124.4%, (ii) transmigration land certification (144,956 units with a total area of 130,129 ha) is 21.7%. Meanwhile, the achievement of asset redistribution is 1,121,371 ha (24.9%). It consists of (i) land distribution from Ex-business use rights (HGU) of abandoned land and state land (1,344,165 units with a total area of 917,428 ha) is 229.4% (ii) released forest area (361,803 units with a total area of 203,943 Ha is 5.0% [26].

For easy understanding of FS and TORA, the simple description of both programs is tabulated in Table 1 so that relevant stakeholders would gain a full and comprehensive understanding of both different programs (Table 1).

| No. | Description | Social Forestry | TORA |
|-----|-------------|-----------------|------|
| 1.  | Keywords from definition | Community-based management, participatory, prosperity (economically feasible) and socially acceptable, and ecologically viable | Reform, domination, fairness, ownership, land use, access and asset |
| 2.  | Bundle of right | Management (access) | Ownership (asset) |
| 3.  | Rights provider | MoEF | MASP/NLA |
| 4.  | Rights recipient | Community living inside and surrounding forest area | Landless, “gurem” farmers and poor community |
| 5.  | Land target (x million ha) | 12,7 | 9 |
| 6.  | Source of land | Forest areas | Eleven (11) sources, such as HGU, and abandoned lands |
| 7.  | Time period: |  | |
|     | • 2015-2019 (x million ha) | 4,38 | 4.5 |
Table 1 indicated that the total area target of SF is 12.7 million ha and its realization is 4.72 million ha or 37.2% accumulating from the period 2015-2019 (92.5%) and the period 2020-2024 (8.1%). Meanwhile, the total area target of TORA is 9 million and its realization is only 6.1 million ha or 67.8%. The released forest area as a source of TORA has the lowest realization of land redistribution. It involves 361,803 land units with an area of 203,943 ha or 5% from the targeted area (4.1 million ha). Therefore, it needs for its acceleration to achieve its own area target.

3.2. Efforts to acceleration of SF and TORA target achievement

In general, the realization of SF program (37.2%) is lower than the realization of TORA (61%). The SF low realization is because its target is really huge. Resosudarmo [12] pointed out that the targeted area for both programs (21.7 ha) is far ambitious because it is slightly equal to Laos’s forest area and it is higher than Chile’s forest area. This target especially for SF is not referred to as the previous achievement of community forest. Praputra [29] reported that the target of community forest (7.9 million) including HD, HKm and HTR was realized around 1.38 million ha (17.5%) during 4 years of implementation (2010-2014). Therefore, the existing realization of the SF target (4.38 million ha) is the best target achievement through the government greatest efforts.

Based on the above information, the first step to be done for the acceleration of SF program is the revision of its target. The target of SF program for the next 5 years implementation (2020-2014) has been set into 8.32 million ha as the rest target of 12.7 million ha. In its second implementation phase (2020-2014), the SF realization is around 670,556.0 ha (8.1%) consisting of 389,885.4 ha in the year 2020 and 280,770.6 ha up to June 2021. Therefore, the SF target for the second phase is approximately 1.95 million ha (5 years x 390 thousand ha/year). This is a realistic target under the uncertainty of pandemic ending period. Indonesia faces abnormal situation in every development sectors since pandemic occured from March 2020 up to now (August 2021). World Bank [30] reported that COVID-19 has a huge effect on economic and human life globallly and in Indonesia. Although Indonesia has milder recession (-2.1%) among Emerging Markets and Developing Economies, EMDEs (-4.3% excluding China), the impacts on social and economic condition is really unpredictable. The number of unemployment increased around 1.8 million people in February 2020 and 2021 and another 3.2 million people of jobless. Approximately 2.8 million people have collapsed into poverty as of September 2020.

After revision of the SF target (2020-2024), the government should verify the targetted people involved in SF program (MoEF regulation No. P.83/2016). Ekawati[13] has proposed the verification of the recipient target of SF program. Community living in the surrounding forest is clarified by Personal Identification Card (KTP). Community living inside forest areas is verified by the presence of social community and history of cultivated forest land. Community livelihood depending mainly on forest should be clarified by the most of their income coming from the forest and no other significant income sources. Community activity affecting the forest ecosystem is verified by the reduction of forest cover during their land clearing.

During the field verification of the recipient target, there is a posible mistake for the wrong SF license allocation. For example, HTR at Muna District, Southeast Sulawesi was not active anymore due to the license holders came from the outside of district and was far away from the forest area[29]. This case should be solved by replacing with another farmer group working in the nearest HTR area or by implementing a land swap to other landholders for shortening a distance between the license holders.

| Year     | Realization (x million ha) | Cumulative Realization (x million ha) |
|----------|----------------------------|--------------------------------------|
| 2020-2024 | 8.32 (100%)                | 4.5                                  |
| 2015-2019 | 4.05 (92.5%)               | 4.98 (110.7%)                        |
| 2020-2024 | 0.67 (8.1%)                | 1.12 (24.9%)                         |
and their working area. This also required the revision of the national-wide indicative map for the allocation of SF schemes (Peta Indikatif Area Perhutanan Sosial, PIAPS). Ekawati[13] suggested that PIAPS data should be reviewed accordingly because the location of PIAPS has to be allocated to the locations where conflicts of forest utilization exist. This is because SF program is one of conflict resolution models. In addition, the revision of PIAPS should collaborate with the nearest Forest Management Unit (KPH) in all provinces for preventing tenure conflicts in the field[31].

After revision of the SF target (2020-2024), the government should allocate properly forest areas for SF program based on the social capital of the community and the capacity of the local government. Suharti [31] suggested that the local government should be proactive for developing SF in its region. Therefore, Subarudi [32] has designed for giving the SF license by using two important variables, namely social capital and capability of local government. If both social capital and local government capability are lower, the right SF scheme given is KK. In contrast, if both social capital and local government capability are high, the right SF scheme given is HTR. However, if social capital is high and local government capability is low, the right SF scheme given is HA, HKm, and HD. Meanwhile if social capital is low and local government capability is high, the right scheme given is Business Owned Village Entity (Badan Usaha Milik Desa/BUMDes) (Figure 1).

| Social Capital of Community | Low | High |
|----------------------------|-----|------|
| Low                        | KK  | BUMDes |
| High                       | HA, HKm, and HD | HTR |

**Figure 1.** SF license allocation based on social capital and local government capability (Source [32])

Actually the MoEF has good efforts to accelerate the target achievement such as taking out the SF license authority from sub-national governments, formation of a unit specifically responsible in managing SF application and implementation at five provinces, the establishment of SF acceleration working groups, development of an online system for SF applications, and the providing of multiple funding sources [12]. These efforts should be maintained and applied consistently for the near future implementation.

Another action taken by the governments to speed up the SF program is the finding of solutions for several problems arising during the implementation of SF Program. Actually, Hakim [19] and Ekawati [13] have identified many problems in the implementation of SF five schemes. The list of the problems should be solved by the MoEF in order to assist the acceleration of SF implementation in the near future.

To speed up TORA implementation, the MASP/NLA should find the solutions to its implementation handicaps. Aisiyah [33] reported that TORA is slightly difficult to be conducted especially for lands from the released forest area due to some procedures and requirements to be fulfilled for releasing forest area. Another handicap is the government tends to execute more for land legalization or land certification than for land distribution [14] so that it has been criticized by the KPA (2018), which stated that land certification is merely a small part of TORA program. In addition to the handicaps, Sumarja [34] has identified the problems emerging during agrarian reform based on Perpres 86 Tahun 2018, i.e., (1) rejecting from HGU holders, (2) many pressures faced by a task force of TORA, (3) dominant power from giant companies in mining, estate crops, and forestry, (4) strong influence of government institutions for land management authority, (5) overlapping regulations on land management, and (6) marginalization of customary law. Therefore, the TORA acceleration can be done by making simply the procedure of forest release, focusing on land distribution, and finding solutions for the last six handicaps.
3.3. The prosperity of community before and after SF and TORA implementation

A macro social forestry concept places the community development as a second circle and the first (core) circle as a strengthening of forest function. Then, the third cycle is forest management and the fourth circle is sustainable forest management [35]. This means the movement of social forestry starts from the first circle to the second circle. This implies that successful community development is useless without strengthening its forest function. Natural disasters would emerge and reduce significantly the prosperity of development due to neglecting of forest function.

In order to evaluate the effect of SF and TORA implementation on the prosperity of the community, it needs to divide the SF implementation period. In terms of before SF implementation is identified under the year 2015 and after SF implementation is started since the year 2016-2021. The use of the time period is determined by the year of SF program conducted (MoEF regulation No. 83 the year 2016 regarding SF although the SF concept has firstly launched in the year 1984 and continued by the introduction of village forest in 2008[19] [35]. Meanwhile, TORA program has been carried out since the several government regimes operate[14], however, its intensive implementation began in the year 2015 in relation to the issuance of Perpres Number 2 the Year 2015 regarding RPJMN (2015-2019) that contained the TORA program.

Actually, the effect of SF and TORA programs on community prosperity can be seen at the micro and macro levels. At the micro-level, MoEF has designed the criteria and indicator (C&I) for the success of SF business group (Kelompok Usaha Perhutanan Sosial-KUPS). Classification of KUPS is based on the three criteria, namely (1) management of an area, (2) management of an institution, and (3) management of the business as stated in MoEF Regulation No. 9 year 2021 regarding SF Management. The indicators of the success of KUPS have incremental improvement from blue to platinum categories (Table 2). However, the KUPS can directly obtain the platinum category without gaining the blue category at the first time, whenever the KUPS poses all indicators set for the platinum class.

**Table 2. Criteria and indicators for the successful KUPS achievement**

| No. | KUPS Criteria | Number of KUPS (unit/%) | Indicators for KUPS Success | Incentives Given |
|-----|---------------|-------------------------|----------------------------|------------------|
| 1.  | Blue          | 3,480 (50.8)            | (1) Approved as KUPS and (2) business potential has been identified | Receive a special accomplishment |
| 2.  | Silver        | 2,821 (41.1)            | (1) Gained blue category, (2) pose a SF management plan, and (3) have a business unit. | Gain promotion for its business unit at the local level |
| 3.  | Gold          | 507 (7.4%)              | (1) Gained silver category, (2) pose a product or nature recreation facility to be promoted, (3) has capital access from self-sufficient funding, grants and/or loan, and (4) pose market or tourist in local level | Assist to find capital sources Gain promotion for its business unit at national level |
| 4.  | Platinum      | 49 (0.7)                | (1) Gained gold category, (2) pose capital access from self-sufficient funding, grants and/or loan, and (3) pose market or tourist at national, regional and international level | Gain promotion for its business unit in regional and international levels |
|     | Total         | 6,857 (100)            |                            |                  |

Source: MoEF Regulation No. 9/2021 (Modified)

The number of KUPS getting platinum class is only 0.7% and the gold class is 7.4% from the total KUPS of 6,857 units (Table 2). This indicated that the SF program for the last five years focused on more the area target achievement than the prosperity improvement of the SF license holders. This is proven by the highest percentage of blue and silver classes (92%). Many KUPS have gained their successful business. One of the examples is a community forest of Pipikoro, Sigi District, Central...
Sulawesi Province. This community forest poses various commodities that are potential from the area of 2,600 ha. It produced 150 ton rattan, 0.5 ton agarwood, and 25 ton coffee per year[29].

Table 2 also indicated that the indicator of successful KUPS is quite simple without a more detailed description and given incentives. This indicator needs to be completed with additional description for convincing their business unit is profitable. For example, in the gold class it is not enough only for producing a product, but also the product is saleable and profitable. Another additional indicator is the kind of incentives to be given to KUPS with different classes. In a principle, this incentive would be able to encourage KUPS for running more advance in its business activity.

At the macro level, the MoEF and MASP/NLA have not formulated yet the success of FS and TORA programs. Therefore, the indicator for the success of FS and TORA before and after its implementation should be made properly. As Maryudi [36] pointed out that the SF has triple objectives, i.e. securing of rights, enhancing livelihood, and conserving of the forest. These objectives become a central achievement not only for the SF, but also for TORA implementation. In this case, the livelihood improvement can be indicated by 8 (eight) indicators i.e. number of farmer households, number of agriculture businesses, number of small scale forestry businesses, number of workers, number of unemployment, number of poor people, gini coefficient, and village status as shown in Table 3.

**Table 3.** Indicator for the success of FS and TORA before and after its implementation

| No. | Indicator                              | Tahun 2013 (Pre FS and TORA)¹ | Tahun 2019 (Post FS and TORA)² | Tahun 2021 (Epidemi)³ |
|-----|----------------------------------------|-------------------------------|-------------------------------|----------------------|
| 1   | No of farmer household (x million hh) | 26.126                        | -                             | -                    |
| 2   | No of agriculture business (unit)      | 5,486                         | -                             | -                    |
| 3   | No of small scale forestry business (unit) | -                           | -                             | -                    |
| 4   | No of workers (x million people)       | 121.2                         | -                             | -                    |
| 5   | No of unemployment (x million people)  | 7.17                          | 7.05                          | -                    |
| 6   | No of poor people (x million people)   | 28.07                         | 25.14                         | 27.54                |
| 7   | Gini coefficient (%)                   | -                             | 0.382                         | 0.384                |
| 8   | Village Status:                        |                               |                               |                      |
|     | Number of the village (unit)           | -                             | 83,931                        | -                    |
|     | Developed village (unit)               | -                             | 55,369 (73%)                  | -                    |

Source: 1) BPS Pusat (2013); 2) BPS Pusat (2019); BPS Pusat (2021)

Table 3 indicated that the number of farmer households is chosen as an indicator due to its close correlation between farmers and lands. The decrease in the number of farmers might be caused by the reduction of farmers’ land. For example, in the year 2003 the total farmer household is 31.17 million people and decreased to 26.13 million people in 2013. It means that the reduction of farmer households is 4.04 million people for the last ten years or 404,300 farmers per year. These farmers have shifted their farming activity into other activities. However, the SF program has recently involved 1.03 million households and returned them to be farmers working in forest land.

The number of workers, unemployments, and poor people indicates the success of SF and TORA program. The implementation of both programs would reduce the number of unemployment and poor people, but it increases the number of workers because they have new job opportunities. The use of poverty has been supported by Dewi [37] who pointed out that SF is one of the solutions for poverty alleviation for community living in surrounding forest area. Otherwise, the poverty would cause forest destruction ranging from small scales to big scale. Based on Table 2 the improvement of community prosperity has not achieved yet because the number of KUPS getting both platinum and gold classes is only 556 units or 8.1%.
The gap of community expenditure is measured by a Gini Ratio. The lower the gini ratio, the smaller the community expenditure gap. The gini ratio increases from 0.382 (2019) to 0.384 (2021). It might be caused by the presence of pandemic. Village status can be used to evaluate the success of village forest. The presence of the village forest would improve the village development level due to the provision of additional village earning source. This is supported through village potential data from the Ministry of Forestry and Statistical Central Bureau in 2011 indicating that around 8,644 (11.1%) village located in forest areas and 26,353 (33.7%) village at the border of forest area, and 43,097 (55.2%) village located in outside of forest area[13]. It means the evaluation of village forest performance would be focused in villages located in the forest area rather than the outside of the forest area.

The use of the above eigth indicators is sometime difficult to be obtained due to inconsistent data provided by BPS Pusat. Beside that, these indicators is in macro or national level, so that they should be changed into local level especially in the district level where SF and TORA program were implemented.

The securing of rights in SF and TORA implementation can be indicated by the presence of tenure conflict in the site location. Martin dan Fitriyanti [18] underlined that the implementation of social forestry is not only viewed as panacea for social conflict resolution, but also prospected as economically productive bussiness. Praputra [29] and Ekawati [13] clearly stated that SF become a way out from tenure conflict in forestry sector. Therefore, another indicator for the success of SF and TORA chosen is a number of conflict. The increase of tenure conflict indicate that distribution of land and allocation of access to the land are not able to reduce the tenure conflicts. Five conflict indicators are used for the evaluation of the SF and TORA implementation (Table 4).

**Table 4. Conflict indicators for evaluating the implementation of SF and TORA program**

| No. | Conflict Indicator | Tahun 2013 (Pre FS and TORA)$^1$ | Tahun 2018 (Post FS and TORA)$^2$ | Tahun 2020 (Pandemic)$^3$ |
|-----|--------------------|-------------------------------|-------------------------------|---------------------------|
| 1.  | Total number of conflict (cases) | 369 | 480 | 241 |
| 2.  | Involved household (hh) | 139,874 | 87,568 | 135,332 |
| 3.  | Total land conflict (ha) | 1,281,660 | 807,178 | 624,273 |
| 4.  | Involved sectors (cases): | | | |
| | • Crops Estate | 180 | 144 | 122 |
| | • Forestry | 31 | 19 | 41 |
| | • Agriculture/Agribusiness | - | 53 | 2 |
| | • Mining | 38 | 29 | 12 |
| | • Infrastructure | 105 | 16 | 30 |
| | • Marine/Island | 9 | 3 | 3 |
| | • Property | - | 137 | 20 |
| | • Military Facility | - | - | 11 |
| | • others | 6 | - | - |
| 5.  | Ranking of conflicted area (ha) | | | |
| | • Crop Estate | 527,939 | 591,640 |
| | • Forestry | 545,258 | 65,670 |
| | • Marine | - | 54,053 |
| | • Mining | 97,366 | 49,693 |

Source: 1) KPA (2013); 2) KPA (2018); 3) KPA (2020)

Table 4 indicated that in general there is no significant difference in the number of conflicts before and after implementing both the FS and TORA program. Although the conflict cases in the forestry sector decrease by about 11 cases from 31 cases (2013) to 19 cases (2018), the conflict in 2020 is double from the conflict in 2018. The reduction of 11 conflict cases may be caused by the implementation of FS. However, it also might be said that the presence of both programs have no significant effects on the reduction of the number of conflicts. In terms of conflicted areas ranging from 624,273 ha to 1.281,660 ha can actually be overcome by the total area target of both programs (21,7 million ha). If the tenure
conflict happened outside of PIAPS area. This conflict can also be solved through a land swap scheme and revision of the PIAPS data.

An interesting finding is that the number of conflicts during the pandemic of Covid 19 decreases 22 cases, however, the number of involvement of household increase. According to KPA[4] logically, economic crises as an impact of Covid 19 would be able to maintain the rate of conflict in the field. However, it is an anomaly when the presence of pandemic and minus economic growth, the business group expand their business by grasping community lands. This creates agrarian conflict with the local communities. To prevent tenure conflict, Suharti et al. [31] suggested that the PIAPS should be verified and involved Forest Management Unit in the field.

The conserving of forests in the SF and TORA implementation can be verified by several environment-friendly measures. For example, tree cover is used for preventing the land from erosion and a high rate of runoff. Another example, the SF and TORA holders apply monoculture or polyculture systems in their land. The monoculture system is prone to plant pests and disease attacks. Poly-culture like agroforestry is the best way to be applied in the SF and TORA area[31][38]. FAO [39] pointed out that agroforestry is the combination of trees and crops in cultivated areas. It enhances land productivity and provides at the same time many environmental services. This system is better than any other innovation system proposed by agronomists.

Based on the description above, it is for better the responsible ministries for the FS and TORA programs to formulate the criteria and indicators for the success of their program implementation. This is a very important step to convince the public that the program is well implemented and has the significant improvement of local people’s prosperity. In addition, the enhancement of prosperity village community can be achieved by a collaboration among MoEF (responsible for forest area management), Ministry of Home Affair (responsible for sub-district and district development), and Ministry of Agriculture (responsible for farmers and extensioners) [19].

### 3.4. Recommendation for effectiveness of SF and TORA near future implementation

Actually, the SF and TORA should not only focus on the amount of licenses issued, but also the success factors of its implementation. Subarudi [35] identified the five success factors of SF management, namely: (i) criteria and indicators of success, (ii) socio economics characteristic of community, (iii) institutional system, (iv) production system, and (v) marketing system. Wiradi [25] suggested that the right agrarian reform model should first be designed in accordance with the Indonesian conditions after exploring some agrarian reform experiences from other countries. The models depend mainly on the existing grand design of national agrarian reform.

Design of forest management at post-Law of Job Creation (Law No. 11/2021) emphasizes forest management as ecosystem unity (landscape management) with three pillars principles of economically feasible, socially acceptable and ecologically sensible. Therefore, the SF management and business license should follow the forest management on the basis of landscape management [40]. In fact, forest management patterns conducted by the community not only lying on the three pillars, but also relying on other three pillars, i.e., professionally manageable, technically applicable, and culturally adaptable[41].

Economically feasible can only be achieved by proper selection of products produced from SF and TORA program. This program can adopt the village development program with a strategy of “one village, one product”. In this case, every SF and TORA unit should determine at least one product that is saleable and profitable. This can reduce product competitiveness in the local market and also increase its price due to its specific and unique product. Nurbaya [20] and Hakim [19] pointed out that the SF positions community as a productive community, which can conduct business systematically so that other supporting aspects such as institutional of forest farmer group, technology, and marketing should be prepared and implemented. Hakim [19] suggested that the product processing industry should be provided for increasing its added value of products from the SF and TORA area.

Socially acceptable is expressed by socio-economy characteristics of the community. Subarudi [35], Hakim [19] and Suharti et al. [31] underlined that the community socioeconomy (social capital) becomes
an important factor to the success of SF implementation. This could be the main consideration for choosing the right SF and TORA scheme (Figure 1). The chosen right scheme contributes significantly to the prosperity improvement of the community.

Ecologically sensible is manifested by managing the SF and TORA without neglecting its environmental condition. Subarudi [35] pointed out that the core of the SF concept is the strengthening of forest function. The second layer is community development and the third layer is forest management. For example, the communities should avoid using fire for their land clearing, especially in peatland, although fire using is the cheapest way to clear the land. They could also use more organic fertilizer than chemical fertilizers. This fertilizer can come from manure produced by chicken or livestock and household waste through the silvo-pasture system. This is the cheapest and easily obtained from many sources. Another technology to be used in the SF and TORA implementation is agroforestry that can optimize both land productivity and land conservation[39][38][31].

Professionally manageable is reached by using simple business management. This management would apply a good treasury for recording the money come (credits) and the money out (debits) when the product is sold. The communities would learn a simple cost and benefit analysis (CBA) method for determining the right price of their own products. They also have to record all materials used in their production process to find optimal warehouse management. Hakim [19] pointed out that the important point for the development of SF is to prepare the local community for social learning from community’s development in science, technology, management, and forestry institution. This social learning would encourage and grow the community motivation to be creative and innovative for managing forests professionally and self-sufficiently.

Technically applicable is attained by applying appropriate technology that the community can operate and maintain the chosen technology. For example, the mobile circular saw can be an appropriate machinery for sawing logs into sawn timber products. The price of a mobil saw is not expensive and can be afforded by the community with a quick capital return. Another technology is agroforestry as an appropriate technique for optimizing land productivity. Hakim [19] underlined that the success of the SF and TORA program depends mainly on good support for technology (on-farm and off-farm), management, financing, marketing, and product processing.

Cultural adaptability is realized by the selection of technology, management system, and product processing in accordance with the existing culture applied by community especially customary community. For example, the customary community of Ngata Toro in Central Sulawesi has a local wisdom to manage forests. The forests are divided into zoning systems, such as arewana ngkiki (forbidden forest), wana (primary forest), pangale (disturbed primary forest), pahawa pongko (mixed primary and secondary forests), oma (bushes), and balingkea (critical land). This system is equipped by regulations in conservation forest management and its sustainable utilization [42][43].

Based on the six pillars determining the effectiveness of SF and TORA implementation, the performance evaluation of both programs should involve not only economic pillar (such KUPS performance evaluation), but also other pillars must be taken into consideration for capturing their comprehensive performance. This has been supported by Rakatama and Pandit [44] who pointed out that the SF implementation is more economic touches than its social and environmental matrix.

4. Conclusion

The SF program has given management rights at the state forest with the recipient target of community living inside and surrounding forest area. Meanwhile, the TORA program has distributed property (land) rights to the landless, “gurem” farmer, and poor communities living in the nearest lands as TORA sources. Both programs have same objectives that improve and increase the prosperity of its recipient target.

Some actions to be taken for accelerating the SF and TORA target achievement are the revision of SF area target, verification of recipient target, reevaluation of PIAPS, placing of right SF schemes, and other government strategic actions. These actions should be conducted consistently for convincing that the government is seriously implemented both programs.
The impacts of the SF and TORA programs on the prosperity improvement of the community should be assessed at the micro and macro levels. At micro level, the MoEF has designed the performance evaluation of KUPS (Blue, Silver, Gold, and Platinum) class. However, this evaluation should be improved by giving additional and detailed verifiers and proper incentives for every KUPS class. At the macro level, the responsible ministry should formulate the criteria and indicators for its successful program implementation.

The effectiveness of SF and TORA implementation can be maintained and enhanced by applying six determinants (social, economy, ecology, professional, technical and cultural) pillars. The implementation of the six pillars would guarantee the increase of prosperity and sustainable SF and TORA management. This would fully support the achievement of theme “Rich Forest, Rich People” as a replacement for the mantra “Rich Forest, Poor People”.

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