

# The Effectiveness and the Fishermen's Perception on the Grant Aid Program in Kapuas District, Central Kalimantan Province, Indonesia

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**Abstract:** The present study provides valuable information on the effectiveness evaluation of the grant aid program in fiscal year 2019 and the actual perceptions of fishermen in Kapuas District, Central Kalimantan Province. A total of 82 fishing boats < 3 GT, 517 fishing gears, 82 boat engines and 294 other auxiliaries were handed over to the nine selected fishermen groups at nine fishing villages. CIPP model evaluation was used for evaluating the program effectiveness (total 45 respondents), while the perceptions of both recipient and non-recipient fishermen were analyzed using the Likert answering system (total 60 respondents). The results showed that the grant aid program has been effectively implemented with the value of 62.48 ( $51 < X < 63$ ). The catch production increased 20-81%, the value of catch production rise 28-68%, facilities maintenance was well-done and regular meeting was 3-4 times a month. Both recipient and non-recipient fishermen conveniently accepted and positively responded to this aid program. Any weaknesses of the program could be a substantive basis of consideration for future program improvements.

**Keywords:** CIPP model, fishermen's perception, grant aid program, Kapuas District.

## 1. INTRODUCTION

Capture fishery development is essentially aimed at increasing the welfare of fishermen, protecting fish resources and its environmental habitat. Recently small-scale fishery is considered more sensitive and vulnerable to climate change than commercial fishery, instead of conflict over resources. According to Rashid [1], the major challenges being faced by small-scale fishery are lack of access to financing, restricted market access, the need to ensure quality of fish products, diseconomies of scale and not being able to add value to their catches. This situation is globally occurred in many developing countries [2-5]. Various aid programs have been implemented including the subsidized fuel [6], fishermen's insurance [7] and other technical assistance programs [8,9]. This is in line with the policy of the Ministry of Marine Affairs and Fisheries the Republic of Indonesia to implement its missions, namely sovereignty, prosperity, and sustainability. To ensure the continuity of fishermen's work, the Ministry provides a special allocation fund for improving the capture fishery's facilities and infrastructures to increase the fish production and incomes of small-scale fishermen.

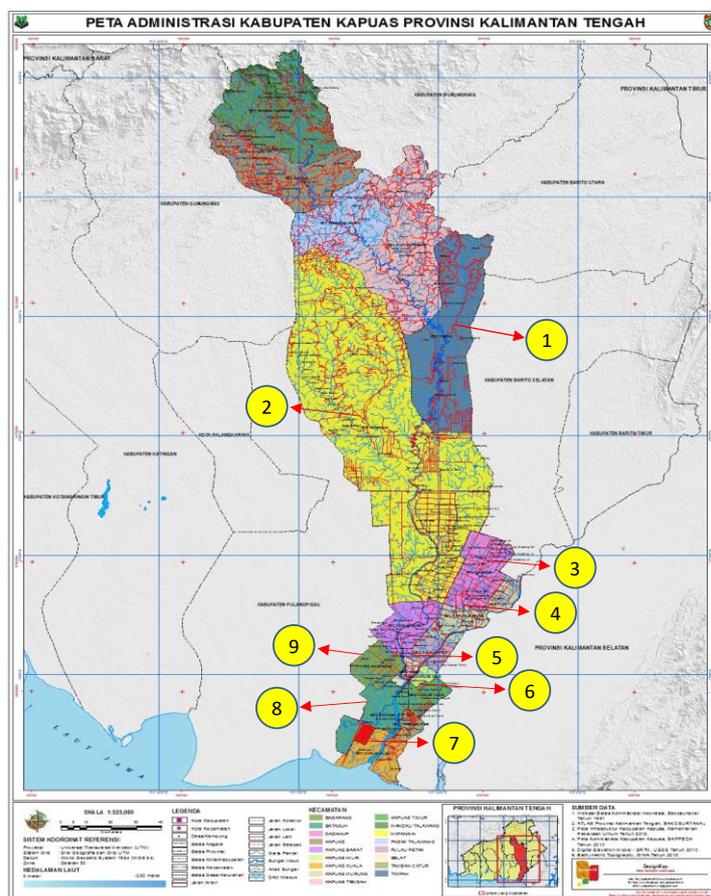
For the implementation, in 2019 the local government through the Kapuas District Fisheries Service has provided the grant aid in the form of fishing boats < 3 GT and fishing gears to nine Joint Business Groups of fishermen in Kapuas District of Central Kalimantan Province. However, according people's suspicions, this grant aid has not been utilized optimally by recipient fishermen and the fish production has been no change. The investigation should be done to prove whether or not the grant aid program implemented effectively and how perceptions of both recipient and non-recipient fishermen related to this grant aid utilization in the area of study.

## 2. MATERIALS AND METHODS

### 2.1. Study Sites

The research was conducted in nine fishing villages in Kapuas District of Central Kalimantan Province (Aruk, Lapetan, Dadahup, Palingkau Lama, Panamas, SeiAsam, Baranggau, Terusan Raya

Hulu, and Pangkalan Rekan villages), located between 1°48'08.7"S and 114°35'45.8"E (Figure 1). The nearest area from capital city of Kapuas District was Panamas village about 14 km (30 min by a car or 15 min by ferry boat), and the farthest area was the Aruk village about 220 km (7 h by a car). In Kapuas District, according to data statistic of capture fishery 2021, there were 4,265 fishermen and 2,862 fishing boats < 5 GT with the gill net at the most. Women often play a significant role in post-harvest processing and marketing. The research activities started from August to February 2021.



**Figure 1.** The map showing the nine fishing villages as study sites in Kapuas District.

(1) Aruk, (2) Lapetan, (3) Dadahup, (4) Palingkau Lama, (5) Panamas, (6) Sei Asem, (7) Baranggau, (8) Terusan Raya Hulu, and (9) Pangkalan Rekan villages.

## 2.2. Grant Aid Features

A total of 82 fishing boats < 3 GT, 517 fishing gears, 82 boat engines and 294 other auxiliaries) were handed over to the nine selected fishermen groups who administratively registered in the Ministry of Marine Affairs and Fisheries website, have a fishing business license and officially recommended by Kapuas District Fishery Service. The boat dimension (LBD) was 6.50 m length, 0.90 m breadth and 0.38 m depth, with 9 HP outboard motors. Mesh size of gill net was 2-inch with twine diameter of 0.3 mm, head rop and foot rope of 3 mm. Total amount of grant aid was about 77,754 USD consisted of 48,621 USD for fishing boats, 5,416 USD for fishing gears, 22,179 USD for boat engines and 1,537 USD for other equipments. The main features and total grant aid received by each fishermen group were described in Table 1 and Table 2.

**Table 1.** The number of grant aid unit that received by each group of fishermen

No	Fishermen Group	Member	Fishing boat	Fishing gear	Engine	Others
1	Isen Mulang Mina Jaya	15	10	24	10	20
2	Berkat Setia Bersama Basarang	10	10	22	10	30
3	Berkat Bersama Palingkau	7	7	74	7	81
4	Maju Bersama Saka Batur Sei Asem	13	9	74	9	-

5	Nelayan Lapetan Hapakat Bersama	20	10	50	10	19
6	Nelayan Lauk Baung Sungei	21	10	48	10	24
7	Olda Dadahup	10	10	11	10	5
8	Maju Bersama Baranggau	13	9	52	9	-
9	Cahaya Terusan	7	7	162	7	115
Total		116	82	517	82	294

**Table 2.** Total grant aid received by each group of fishermen (in USD)

No	Fishermen Group	Member	Fishing boat	Fishing gear	Engine	Others	Total
1	Isen Mulang Mina Jaya	15	6,193	216	2,160	72	8,641
2	Berkat Setia Bersama Basarang	10	6,193	178	2,160	108	8,639
3	Berkat Bersama Palingkau	7	4,335	1,998	2,016	292	8,641
4	Maju Bersama Saka Batur Sei Asem	13	5,574	474	2,592	-	8,640
5	Nelayan Lapetan Hapakat Bersama	20	5,473	216	2,880	71	8,640
6	Nelayan Lauk Baung Sungei	21	5,473	199	2,880	86	8,638
7	Olda Dadahup	10	5,473	267	2,880	19	8,639
8	Maju Bersama Baranggau	13	5,574	468	2,592	-	8,634
9	Cahaya Terusan	7	4,335	1,400	2,016	889	8,640
Total		116	48,621	5,416	22,179	1,537	77,754

### 2.3. Questionnaire Design

The questionnaire contents for the effectiveness evaluation included personal questions (e.g. name, address, sex, age, education, etc.) and their attitudes or opinions on the grant aid program (e.g. background and objectives of program, human resources, funding, program implementation process, barriers/support for program, achievement of program goals and also implementation impact). Additional questionnaire was also given to the recipients for procedural adjustment in term of planning, implementing, monitoring and evaluation aspects of this aid program. Other survey questionnaires were made flexible to explore the perceptions of recipient and non-recipient fishermen on the grant aid program as the whole.

Likert-scale questionnaires are the most commonly used type of instrument for measuring affective variables or to scaling responses of respondents [10].

### 2.4. Data Collection

Primary data were sourced from field observations, interviews, questionnaires, and documentation, while secondary data were collected from literature studies and related institution reports. CIPP model was chosen to evaluate the effectiveness of grant aid, which comprised of **Context**: background of a program; **Input**: funds or budget in implementing a program; **Process**: implementation of programs and procedures or requirements that must be met in carrying out a program; and **Product**: in term of the fish production, boat and facilities maintainance and regular meetings between group members. A total of 45 respondents were evaluated representing 5 fishermen of each group. The effectiveness of grant aid program was determined based on the calculation results and categorized accordingly. A total of 60 respondents comprising 30 recipients and 30 non-recipient fishermen were separately investigated to have their personal perceptions on the implementation of grant aid program. The response category ranged from 'strongly agree' to 'strongly disagree' and it was stated in percentage (Table 3).

**Table 3.** The categories in rating scales for evaluating the effectiveness of grant aid program and the perceptions of both recipient and non-recipient fishermen

Effectiveness	Category	Perceptions (%)	Category
$X > 63$	Very effective	81 – 100	Strongly agree
$51 < X < 63$	Effective	61 – 80	Agree
$39 < X < 51$	Effective enough	41 – 60	Somehow agree
$27 < X < 39$	Ineffective	21 – 40	Disagree
$X < 27$	Not very effective	0 – 20	Strongly disagree

## 2.5. Data Analysis

All the questionnaire contents were constructed using a Likert-scale answering system. The validity and reliability tests were applied for the questionnaire before using it to collect data. All document requirements related to the grant aid program were carefully check-listed using observation method to ensure the feasibility of each recipient group procedurally.

## 3. RESULTS AND DISCUSSION

### 3.1. Effectiveness of Grant Aid Program

Based on the results of the CIPP evaluation, the implementation of grant aid program was considered "effective" with the total average of the respondents' answers was 62.48. It meant that the grant aid program can increase the catch production and improve the welfare of fishermen. The similar results were also reported in the previous studies [8,11]. Figure 2 shows the CIPP evaluation model used for assessing the effectiveness of grant aid program, which merging of goals, plans, actions and outcomes.

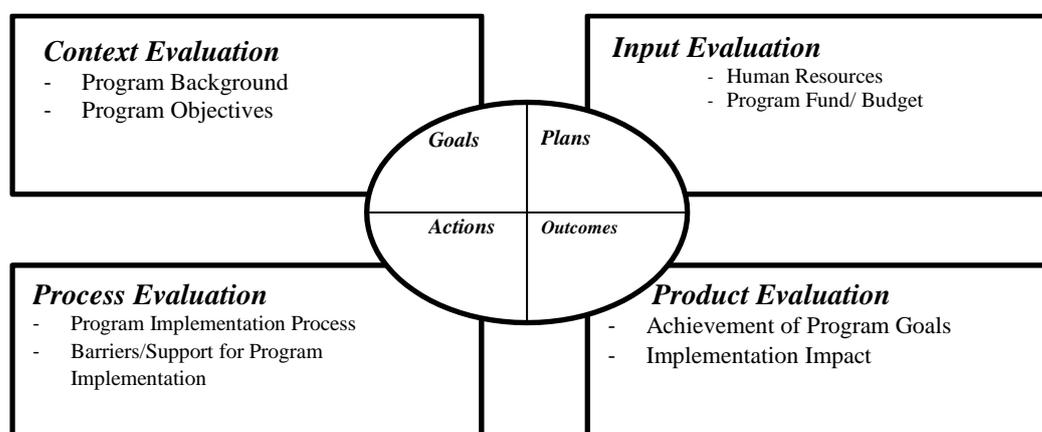


Figure 2. CIPP evaluation model to outline the grant aid program

The effectiveness of the grant aid program can be seen from different level of evaluation:

### 3.2. Context Evaluation

The grant aid program was intended to help small-scale fishermen to take advantage of potential fish resources and aware of illegal, unreported and unregulated fishing practices around their fishing areas. The success of the grant aid program was largely determined by the cooperation and commitment of all stakeholders started from the planning, implementation, task distribution, decision making to monitoring and evaluation phases. The grant aid program was also directed to support the fishery business activities as an economic growth indicator through the local community empowerment approach.

### 3.3. Input Evaluation

Input evaluation was associated with the use of resources (e.g. budget, human resources, the programs implemented, the facilities and infrastructure used) to achieve program objectives.

The grant aid program was expected to be able to improve the performance of fishermen as the main actors in the fisheries sector. Henceforth, funding support was needed to carry out several activities based on a priority scale and commitment of all stakeholders involved. The grant aid received by local fishermen group here was sourced from DAK (special allocation fund) belong to Kapuas Regency Fisheries Service for the 2019 fiscal year. The results showed that funds can be accounted for, timely and right on target recipients.

### 3.4. Process Evaluation

Process evaluation provides feedback on the grant aid program that it has been implemented procedurally. A total of 9 document requirements have been completed by the recipient group of fishermen, namely: proposal, notarial deed, registered in the Ministry of Law and Human Rights, Tax Identification Number, the Decree of the Head of Fishery Service, the Regent's Decree, regional grant agreement, acceptance order (goods) and integrity pact (Table 4). During the process, the recipient

group of fishermen coordinated with the Kapuas District Fisheries Service and Fisheries Extension officer to complete these requirements.

**Table 4.** Checklist to ensure recipient group of fishermen have met all the requirements

No	Description	Recipient group of fishermen								
		I	II	III	IV	V	VI	VII	VIII	IX
1	Proposal	√	√	√	√	√	√	√	√	√
2	Notarial Deed	√	√	√	√	√	√	√	√	√
3	Registered in the Ministry of Law and Human Rights	√	√	√	√	√	√	√	√	√
4	Tax Identification Number	√	√	√	√	√	√	√	√	√
5	SK Head of the Decree of the Head of Fishery Service	√	√	√	√	√	√	√	√	√
6	The Regent's Decree	√	√	√	√	√	√	√	√	√
7	Regional Grant Agreement	√	√	√	√	√	√	√	√	√
8	Acceptance Order (goods)	√	√	√	√	√	√	√	√	√
9	Integrity pact	√	√	√	√	√	√	√	√	√

**Note:** (I) *Isen Mulang Mina Jaya*, (II) *Berkat Setia Bersama Basarang*, (III) *Berkat Bersama Palingkau*, (IV) *Maju Bersama Saka Batur Sei Asem*, (V) *Nelayan Lapetan Hapakat Bersama*, (VI) *Nelayan Lauk Baung Sungei*, (VII) *Olda Dadahup*, (VIII) *Maju Bersama Baranggau*, and (IX) *Cahaya Terusan*.

Limited funds or budget made the Fisheries Service to be really selective in choosing the applicant for the grant aid. Moreover, remote village locations were also a bit of an obstacle for the group in taking care of notarial deeds and registering with the Ministry of Law and Human Rights, because it requires amount of fee and transportation from the village. However, this obstacle can be overcome by mutual funds between group members.

### 3.5. Product Evaluation

Product evaluation is basically interpreting the program during implementation and at the end of the program. The results of program activities and achievements were the output obtained from the provision of grant aid in the form of increased catch production 20-81% (Table 5), the value of catch production rise 28-68% (Table 6), the aid facilities (e.g. boats, engines and fishing gear) have been well-managed and regular meeting was 3-4 times a month. The similar results were also in line with the previous studies [12,13]. Fishermen groups showed a good response under guidance and supervision by the Fishery Service, accompanied by Fishery Extension officers.

**Table 5.** Catch production of the groups before and after receiving the grant aid program

No	Name of Recipient Group	Catch Production (kg/year)		Increase (%)
		Before	After	
1	Isen Mulang Mina Jaya	6,290	9,320	48.17
2	Berkat Setia Bersama Basarang	8,360	10,050	20.22
3	Berkat Bersama Palingkau	4,128	6,170	49.47
4	Maju Bersama Saka Batur Sei Asem	7,795	10,815	38.74
5	Nelayan Lapetan Hapakat Bersama	6,150	11,100	80.49
6	Nelayan Lauk Baung Sungei	6,030	9,460	56.88
7	Olda Dadahup	6,335	10,225	61.40
8	Maju Bersama Baranggau	8,360	14,500	73.44
9	Cahaya Terusan	5,070	7,500	47.93

**Table 6.** The value of catch production of the groups before and after receiving the grant aid program

No	Name of Recipient Group	Catch Production (USD/year)		Increase (%)
		Before	After	
1	Isen Mulang Mina Jaya	13,031	19,829	52.17
2	Berkat Setia Bersama Basarang	9,422	12,681	34.59
3	Berkat Bersama Palingkau	8,921	12,933	44.98
4	Maju Bersama Saka Batur Sei Asem	16,845	22,669	34.58
5	Nelayan Lapetan Hapakat Bersama	13,290	19,074	43.52

6	Nelayan Lauk Baung Sungei	13,031	16,685	28.04
7	Olda Dadahup	13,751	21,432	55.86
8	Maju Bersama Baranggau	18,066	30,393	68.24
9	Cahaya Terusan	10,956	15,721	43.49

### 3.6. Perceptions of Recipient and Non-recipient Fishermen

Most of respondents responsively stated “Agree” with the grant aid program (Table 7). Further analysis using the Likert answering system, the overall perceptions of recipient and non-recipient fishermen on the grant aid program were categorized “Agree” with the values of 80.73% and 76.33%, respectively, indicating that the fishery facilities given were applicable and beneficial for them to improve their economic life. Such condition was also experienced by fishermen in Tegal City, Bangka and Ende Districts [14-16]. Facilitation of physical equipment assistance should also be followed up with actual training to improve the quality of human resources [17]. At the same time, internal and external analysis of small-scale fishery management should be kept updating as a basis for future better planning to improve the welfare of fishermen.

**Table 7.** Descriptive Likert answering structure of recipient and non-recipient groups of fishermen

Score	Category	Recipient group		Non-Recipient group	
		Answer	Percentage	Answer	Percentage
5	Strongly agree	40	13	33	13
4	Agree	241	80	169	67
3	Somewhat agree	17	6	41	16
2	Disagree	2	1	11	4
1	Strongly disagree	0	0	0	0
	Total answer	300	100	254	100
	Overall perception	-	80.73	-	76.33

## 4. CONCLUSION

The grant aid program for fishing boat < 3 GT and its fishing gear has been effectively implemented from the view point of procedural, technical and economical aspects. Both recipient and non-recipient fishermen conveniently accepted and positively responded to this aid program. Any weaknesses of the program could be a substantive basis of consideration for future program improvements.

## ACKNOWLEDGEMENT

Our gratitude goes to the Head of Kapuas District Fishery Service, Fishery Extension Officers and also Fishermen group leaders for kindly supporting this research. Author thanks reviewers for significantly improving the contents of manuscript to publishable level

## REFERENCES

- [1] Rashid, A. (2021). Challenges and opportunities for small scale fisheries in trade. *INFOFISH International* 5: 50-53.
- [2] Islam, M.M., Sallu, S., Hubacek, K., Paavola, J. (2014). Vulnerability of fishery-based livelihoods to the impacts of climate variability and change: Insights from coastal Bangladesh. *Regional Environment Change*. 14: 281-294.
- [3] Nayak, P.K., Oliveira, L.E., Berkes, F. (2014). Resource degradation, marginalization, and poverty in small-scale fisheries: Threats to social-ecological resilience in India and Brazil. *Ecology and Society*. 19(2):73.
- [4] Ndhlovu, N., Saito, O., Djalante, R., Yagi, N. (2017). Assessing the sensitivity of small-scale fishery groups to climate change in Lake Kariba, Zimbabwe. *Sustainability*. 9(2209): 1-18.
- [5] Panpeng, J., Ahmad, M.M. (2017). Vulnerability of fishing communities from sea-level change: A study of Laemding District in Chanthaburi Province, Thailand. *Sustainability*. 9(8): 1388.
- [6] Shafari, E., Ahmadi, Mahyudin, I. (2019). The effectiveness of the subsidized fuel distribution for fish carrier vessels in Banjarmasin Fishing Port, Indonesia. *International Journal of Fisheries and Aquatic Research*. 4(2): 8-14.

- [7] Rafi, W., Hidayat, A.S., Agusliani, E. (2020). The relationship between fisherman's characteristics and perceptions on independent fishermen's insurance in Batakan Village, Tanah Laut District of Indonesia. *International Journal of Innovative Studies in Aquatic Biology and Fisheries*. 6(4): 1-5.
- [8] Alfian, Martoyo, Listiani, E.I. (2014). Implementation of the capture fisheries aid program in Pemangkat District, Sambas Regency. Thesis. Social and Political Sciences. Tanjungpura University, Pontianak.
- [9] Saprani. (2016). Study of the program for provision and rehabilitation of capture fisheries production facilities and infrastructure on increased fishermen's income in Tanah Laut District, South Kalimantan. Thesis. Lambung Mangkurat University, Banjarbaru.
- [10] Joshi, A., Kale, S., Chandel, S., Pal, D. (2015). Likertscale: Explored and Explained. *British Journal of Applied Science and Technology*. 7(4): 396-403
- [11] Arnawa, K., Purnama, I.B., Mekse, G., Arisene, K. (2016). Impact of capture fisheries facility aids on increased fishermen's income in Gianyar Regency, Bali Province. *Journal of Agribusiness Management*, 4(1): 47-55.
- [12] Boesono, H., Bambang A.N., Husni I.A. (2019). Socio-economic characteristics of fisheries communities and environmentally friendly fishing equipment in Batang District, Indonesia. *Russian Journal of Agricultural and Socio-economic Sciences*. 3(87): 243-250.
- [13] Wiranto, B., Bambang, A.N., Mudzakir, A.K. (2019). Factors affecting participation of fishermen in fisheries extension program of Cilacap Coastal. *Russian Journal of Agricultural and Socio-Economic Sciences*. 3(87): 266-275.
- [14] Sudarmo, A.P., Baskoro, M., Wiryawan, B., Wiyono, E.S., Monintja, D.R. (2016). An internal and external analysis of small-scale coastal fisheries management in Tegal City. *Marine Fisheries Journal*. 7(1): 45-56.
- [15] Budianto, M.W. (2017). Fishermen's perceptions of the fishing gear and aid program in Bangka District. University Terbuka, Jakarta.
- [16] Djata, B.T. (2018). The role of facilitators and the impact of budgets in the marine and fisheries sector on the welfare condition of the fisherman community in Ende District. Faculty of Economics, Flores Ende University, East Nusa Tenggara.
- [17] Ningsih, F.S., Irnad, Cahyadinata, I. (2017). A study of fishermen's perceptions on fisheries policy in Bengkulu City. *Jurnal AGRISEP*. 16(2): 133-144.

**Citation:** Satria Rusdiana et al. "The Effectiveness and the Fishermen's Perception on the Grant Aid Program in Kapuas District, Central Kalimantan Province, Indonesia", *International Journal of Innovative Studies in Aquatic Biology and Fisheries (IJISABF)*, vol. 8, no.1, pp. 1-7, 2022. <http://dx.doi.org/10.20431/2454-7670.0801001>

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