

FISHERIES TRANSMIGRATION SCHEME IN INDONESIA

by

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I. Introduction

Indonesia is endowed with very rich fishing resources, in both marine and inland waters. The potential of marine fisheries is estimated at about 6.6 million mt annually while that of inland fisheries is variable depending upon the technological inputs applied in aquaculture.

Total fish production in 1985 was 2.374 million mt, consisting of 1.810 million mt of marine species and 0.554 million mt of inland species. Compared with its resource availability the production of marine fisheries comprised about 27.4 percent.

The production of aquaculture, which covers brackishwater fish culture and freshwater fish cultures amounted to 298.5 thousand mt or about 52.9 percent of the inland fisheries production. Brackishwater fish culture has been assigned a high priority by the government both as a substitute for the decline in shrimp catch due to the ban on trawl fishing and because of its resource availability.

Although the exploitation of fisheries resources is somewhat low, operations are concentrated mostly in the coastal areas and close to the densely populated regions, especially Java. More than 23 percent of the total fishermen of Indonesia, operate off the north coast of Java. The population is even higher for that of brackishwater fishfarmer, i.e: about 58 percent. On the other hand, only 14.5 percent of the total area appropriate for brackishwater culture (estimated at about 830.000 hectares) is located in Java. In the other islands a large proportion of fisheries resources are still underutilized.

The population of Indonesia is more than 163 millions. Nearly 99 millions (about 60 percent of the total population) live in Java, which constitutes 6.9 percent of the land area, at an average density of over 690 people/km² of land. The general distribution pattern of fishermen/fishfarmers is in line with that of the population.

The distribution of fisheries operations and of fishermen/fishfarmers coupled with the ever increasing population pressure in the region are causing 1) the unbalanced exploitation of fisheries resources 2) resources use conflict 3) a socio-economic gap between fishermen / fishfarmers and other groups of the community, all of which could lead to serious problems to the national stability.

The national development programme through its five Year Development Plan is based on the strategy for achieving 1) more equitable distribution of development and its gains, leading to the welfare of the entire population 2) a sufficiently high economic growth and 3) a sound and dynamic national stability.

In line with the development strategy, the government has formulated a transmigration scheme for fishermen and brackishwater fish farmers as a part of the overall transmigration programme, involving transmigration of some fishermen and brackishwater fishfarmers from the densely populated areas, such as the north coast of Java, to the other areas which have a high potential for fisheries development.

II. Objectives

General Objectives

The transmigration programme/scheme of fishermen and brackishwater fishfarmers, is basically a programme of transmigrating people from one region to other regions, in an effort 1) to achieve better distribution

of population and labour forces 2) to open up new production areas 3) to achieve a better standard of living of the people and 4) to gain more equitable growth of development between the regions.

At the same time, the programme will also promote regional development and provide an opportunity to improve the use and management of the resources.

Specific Objectives

The specific objectives of the programme are 1) to reduce the population pressure in the densely populated and over-exploited areas 2) to achieve a more equitable and rational utilization of fisheries resources 3) to increase the income and welfare of the fishermen and brackishwater fishfarmers and 4) to create employment opportunities.

III. Criteria

The success of the transmigration programme is very much dependent on several components which are closely related :-

- 1) Fisheries resources;
- 2) Natural resources (appropriate for settlement and agriculture);
- 3) Human resources: transmigrants (fishermen/fishfarmers with their families) and the community in the transmigration area;
- 4) Artificial resources: infrastructure, fisheries facilities;
- 5) Institution: institutional set up in the new settlement sociocultural background.

The criteria applied to the implementation of the fishermen/fish farmers transmigration are basically related to those components.

A. Fishermen Transmigration

1. Area of Origin

The region/area of origin should fulfil the following pre-quisites and include:

- a. Densely populated and over-exploited area with the average population income still below the poverty line.
- b. Disaster areas
- c. Areas which must be abandoned to meet the needs of development

2. Transmigration Area

The transmigration area should fulfil the following criteria:

- a. A less populated area with unutilized or under-utilized fisheries resources.
- b. An area which has been allocated/reserved and appropriate for transmigration purposes.
- c. The local government and the community are willing to accept the transmigrants.
- d. The local population is relatively sparse or even none.
- e. The fisheries resources are rich with economically important species which are still under-exploited.
- f. The fisheries resources (fishing grounds) are still able to accommodate fishing for transmigrant fishermen (at least 100 households or 500 people).
- g. The area recommended has spaces for the construction of infrastructure such as; road, fishing port or landing place and other supporting facilities.
- h. There is a market for the additional fisheries products generated by the increased fishing intensity.

3. Transmigrants

The transmigrants are chosen, using the following criteria:

- a. A high degree of motivation and potential to be progressive fishermen.
- b. Full-time fishermen with at least two years experience in fishing.
- c. The ability and the willingness to apply the fishing technology required/recommended in the new area.
- d. Additional skills other than fishing-a special need during the off-season.
- e. The willingness to transmigrate and the ability to adjust to the new environment.

4. Artificial Resources

Artificial resources (covering infrastructure and fishing facilities) needed include:

- a. Well planned settlement area with proper housing, infrastructure (roads, market) and high degree of accessibility to the landing place and to other settlements.
- b. Good source of water for the daily used.
- c. Landing places, equipped with supporting fishing facilities.
- d. Fishing units (fishing vessels and fishing gear).
- e. Credit facilities with simple procedures.

B. *Transmigration of brackishwater fishfarmers*

1. Area of Origin

- a. Densely populated area with tremendous population pressure on brackishwater resources and where the average income of fishfarmers is below the poverty line.
- b. Disaster areas.
- c. The conversion of land containing brackishwater resources for other development purposes.

2. Transmigration Area

- a. An area with relatively less population.
- b. An area which is technically appropriate for brackishwater culture and which is unutilized or under-utilized.
- c. An area allocated/reserved for a transmigration site.
- d. Freshwater resources are available.
- e. The area is able to support the minimum number of transmigrants - a minimum of 300 hectares of appropriate land for brackishwater culture should be available (two hectares of brackishwater pond for each transmigrant).
- f. The availability of production inputs, especially fish/shrimp fry.
- g. Suitable land for settlement is available.

3. Transmigrants

- a. Brackishwater fishfarmers with a high degree of motivation to have a better standard of living.
- b. The maximum age of 45 years.
- c. Married persons.
- d. Equipped with good skill and knowledge in brackishwater culture.
- e. Willingness and able to absorb the technology applied/recommended.
- f. Willing to adjust to the new environment.

4. Artificial Resources

- a. Availability of brackishwater irrigation systems.
- b. Supporting facilities such as: market or auction hall, ice supply etc.
- c. Infrastructure and transportation facilities.
- d. Credit schemes with simple procedures.

IV. Conclusions

1. The pattern of fisheries operations and population distribution, coupled with the ever increasing population, imposes tremendous pressure on land/water resources. Destruction of hillside forest and damage of coastal areas will continue to increase until the population pressure can be reduced/controlled. The transmigration of people from densely populated areas to less populated areas through officially sponsored transmigration or spontaneous migration provides a way of coping with the problems.
2. Fisheries activity (fishing and culture) is still dominated by small scale operations, characterized by traditional technology, low productivity, and a high degree of dependency on natural seasonal conditions. Fisheries products are not categorized as a staple food but are a highly perishable commodity. Hence, transmigration of fishermen/fishfarmers will not succeed, unless all the determined components are properly facilitated.
3. The transmigration programme is an integrated development programme, and its success will be determined by several closely related factors/components, involving many disciplines. Good and continuous coordination from the planning stage to the execution and monitoring/evaluation is therefore essential.