The dynamics mode of production structure in the Patorani community in Takalar district

H A Halik$^{1,2}$, D Salman$^3$, R Darma$^3$ and A A Arief$^4$

$^1$Students of the Doctoral Program at the Graduate School of Universitas Hasanuddin, Makassar, Indonesia.
$^2$Department of Agribusiness, Faculty of Agriculture Andi Djemma University Palopo, Indonesia
$^3$Department of Agriculture Socio Economic Economics Faculty of Agriculture, Universitas Hasanuddin, Makassar, Indonesia
$^4$Department of Fisheries, Faculty of Marine Sciences and Fisheries, Universitas Hasanuddin, Makassar, Indonesia

E-mail: darsalman1963@gmail.com

Abstract. Business activities of torani fish eggs as an integral part of the rural economic system influenced by the presence of the capitalist system. The values of capitalism are absorbed and practiced by some people in their economic activities so as to give birth to more than one mode of production. The presence of more than one mode of production makes one dominate the other. This collision of production modes encourages the articulation of production modes, resulting in a new social formation. This study aims to describe the structure and articulation mode of production that takes place in the Patorani community in Takalar district. This research was conducted using a qualitative approach with a case study strategy. The results of this study indicate that the mode of production structure that takes place is more characteristic of the capitalist mode of production. The capitalist mode of production dominates the non-capitalist mode of production, resulting in articulation of the means of production to meet market demands.

1. Introduction

Flying fish fisheries are a source of livelihood for most fishermen in Takalar district [1,2]. This fishery activity affected around 20 thousand fishermen, courtiers, papalele, daily workers and intermediaries along the coast of Galesong, Takalar district. Flying fish have the advantage of being an economically important fish, where their eggs are an export commodity and flying fish are consumption fish among them [3]. The fisheries subsector gave a large contribution to the National Gross Domestic Product (GDP), namely 2.27 percent in 2015 to 2.51 percent in 2016 with the value of National GDP in 2016 reaching IDR 9,433 trillion at constant 2010 prices or 12,406 trillion at current prices [4].

The torani fish egg business activities as an integral part of the rural economic system in Indonesian territory are also influenced by the presence of the capitalism system. The values of capitalism absorbed and practiced by some people in economic activities, thus giving birth to more than one mode of production.
The penetration of capitalist modes of production in fisheries activities causes the articulation mode of production (production forces and production relations) and changes social formations in the socio-economic life of the Patorani community in Takalar district.

Changes in social formation as a result of the operation of the capitalist system in flying fish fishery activities can be seen from the presence of more than one mode of production simultaneously [7–10]. The articulation of the production mode causes a change in the mode of production, namely a change in the power of production, namely the emergence of wage labor, production tools and raw materials, production technology, production management and capital. Meanwhile, changes in production relations include the entry of financial institutions as providers of financial capital, providers of production facilities, intermediary traders, collectors and intermediaries, where previously the production network only used families and consumers.

Research on modes of production and social formations that have been carried out in Indonesia, Kahn [6] found that the articulation of production methods consists of three ways, namely subsistence production, commercial production and capitalist production. In addition, [11,12] examined fisheries modernization on social formation and mobility of fishing communities. The lowland rice business, although it has quite large yields, does not become a driving force for the development of the capitalist sector. Lowland rice business is less commercialized, due to production orientation for its own needs and little exchange. On the other hand, sugarcane farming there is very commercial as an articulation of capitalist characteristics. The role of traders is very dominant in bringing sugarcane farming into a capitalist business. The expansion of sugar cane in one rice field area can shift rice plants. This shows the dominance of sugarcane (capitalist production mode articulation) over rice (traditional agricultural production mode articulation).

Furthermore, Purnomo [13] conducted a study of modes of production in the Village of the Javanese Mountains, shows that during the colonial period the modes of production that emerged in the local economic structure were traditional agriculture and colonial capitalist. At the beginning of independence were traditional agriculture (ordinary farmers), semi-commercial (rich peasants), and agricultural capitalists (Chinese entrepreneurs). Meanwhile, during the Old Order period, the structures were traditional agriculture (ordinary farmers), semi-commercial agriculture (advanced farmers), and agricultural capitalists (rich farmers and Chinese entrepreneurs). Entering the New Order were semi-commercial agriculture (small and casual peasants), agricultural capitalists (Chinese businessmen and skippers), and capitalists (agro and tourism-industries). Entering the reformation, the mode of production remained, but the number of semi-commercial farmers decreased, while the skipper and agro-industry developed. The results of this study concluded that the modes of production that were present in local social formations from the colonial period to the reformation period consisted of original production modes and capitalist modes of production originating from outside the social system. Furthermore, the research [14], namely Coexistence mode of production based dairy cow supporting farming in producing biogas as renewable energy resources in Enrekang district that in the 1980–2001 period the production mode that took place was subsistence and extensive production model, while the 2002-present period was the mode of production. subsistence and commercial production.

Throughout the author's search, studies have not been found on the dynamics of modes of production structure in the Patorani community. Therefore, this study was aimed to describe the structure and articulation mode of production that takes place in the Patorani community in Takalar district.

2. Materials and methods
This research was conducted in Galesong, Takalar Regency with the consideration that the area is the location of torani fishermen in South Sulawesi was conducted in March–October 2019. This research developed a postpositivism paradigm by using evidence-based on accurate and repeatable observations, conventional truths that are validity, reliability, and objectivity. The type of research used is descriptive
using a qualitative approach (qualitative research). According to Gunawan [15], qualitative research seeks to build understanding (verstehen) and an explanation of human behavior as social beings with a case study method, namely the structure and articulation of production modes in the Patorani community in the Takalar district.

Some of the validity and reliability criteria used in this study include: (1) credibility standards, by extending participation in the field data collection process, conducting and being directly involved in continuous observation, triangulating (methods, data sources, and data collection), and involves various components to discuss/provide input, (2) transferability, which is assessed by readers of the research report. Transferability value is high if the readers of the research report get a clear picture and understanding of the research context, (3) the dependability standard, namely the accuracy in conceptualizing what is being studied (4) the confirmability standard, in this case, it focuses on checking the quality and certainty of the research results.

The type of data used in this research is qualitative data which is data in the form of responses and perceptions from the torani fishing community in Takalar district. The data collected comes from interviews with some informants. Participants or informants are individuals, groups, institutions, both private and government institutions or people who have an interest in the torani fish egg business in Takalar district.

Data collected in this study include primary data and secondary data consisting of primary and secondary data. The data collection techniques used in this study were: observation, interviews, daily notes, documentation, audiovisual analysis of research data in this study consisted of three stages of activity [15,16] i.e., 1) data reduction (data reduction), 2) data exposure (data display), and 3) conclusion and verification (conclusion drawing / verifying).

3. Results and discussion

3.1. The mode of production structure

Marx describes social realists using two approaches, namely the concept of social formation and the mode of production. The social formation is a symptom where two or more modes of production are present simultaneously in society and one mode of production dominates the other, where the dominant mode of production becomes the main light which influences other modes of production and changes the main characteristics of other modes of production [10]. Meanwhile, the mode of production, in general, is a "method" taken by the community in carrying out the production process in order to provide products to meet material needs [17].

The mode of production includes the force of production which consists of human labor power, instruments or means of production, and raw materials, production technology, production management, money capital, worker skills (creativity, ideas, knowledge), technology, and motivation, buildings, land, and energy. In other words, the power of production is a material basis consisting of "skills of workers and means of production" (means of powers). Meanwhile, production relations or social relations of production consist of relationships between one actor and another or social structures that regulate the relationships between humans in a process of producing goods and services for human needs. These social relationships include ownership (property), power relations (power), and control in the control of the productive assets of society, cooperative work relations, and relations between classes of society.

The mode of production that is formed in the flying fish egg business in Takalar district provides information about the ongoing mode of production which is dominated by the capitalist system where production relations are found, the social boundaries that take place in the torani fish egg business are shaped like a system in the company, namely the formation of an employer-worker pattern, where the investors as employers and workers are laborers. According to [18], the production mode that takes place
is the capitalist mode of production and the non-capitalist mode of production, where the capitalist mode of production (80%) dominates the non-capitalist mode of production (20%).

The mode of production that has developed in the torani fish egg business is aimed at obtaining profits from the production and has been market-oriented, both domestic and export. This business unit uses labor starting from the nuclear family and relatives and even the general labor market. The workers have high mobility and are not bound by certain investors.

3.1.1. The production strength. Results of the research on the mode of production structure in the torani fish egg business of the Patorani community in Takalar district in terms of the production strength of informants (capital owners, captain, and labor/crew) are presented in table 1.

Table 1. Production strength of fish eggs business torani in Takalar district.

| Observed indicators                        | Observation Results                                                                                                                                 |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. The scale of ownership of production   | • Boat ownership varies between financiers and Punggawa                                                                                 |
| facilities (boats, engines)               | • Most of the owners of capital are boat owners, but some also own boats                                                               |
|                                           | • A small proportion of skippers also own boats and financial capital, but most have boats, but they do not have financial capital and some also do not own boats and cash capital |
|                                           | • Workers, do not have means of production unless the labor is sold for value                                                            |
| 2. Labor                                  | • Workers other than their immediate family and close relatives market labor                                                            |
| 3. Knowledge and skills                   | • Knowledge and skills in conducting fishing egg fishing operations are knowledge that is passed down from generation to generation and is based on local wisdom |
|                                           | • Use of GPS                                                                                                                                 |

3.1.1.1. Ownership scale of production equipment. Ownership of production facilities in torani fish egg business varies greatly among the actors involved. Boat ownership is generally dominated by financiers/papalele. Most investors also own boats between 2–10 units. Meanwhile, fishermen/skipper, a small part of them owns 1–2 boats and the rest work for capital owners who own boats and other production facilities. In the torani fish egg catching operation the system is similar to that of the company. The crews of the ship are workers who get wages from sharing the results of the production process that is carried out. Fishermen actors get the smallest part of the production where they have no capital except for the labor that is exchanged. The sharing system when production increases tend to benefit the owners of capital so that they can invest and add boats and other means of production. Meanwhile, fishing actors tend to use the proceeds from their activities to meet their subsistence needs.

3.1.1.2. Manpower. The torani fish egg business involves many actors, such as the government, financial institutions, collectors, intermediary traders, exporters and fishermen actors. The number and origin of workers involved in the operation of catching flying fish eggs is as stated by the informant as follows:

I also have 4 units of boats. But also buy eggs. I all paid for the four ships. Each ship has 4 people or 5 people, 1 captain and 4 crew. First, the road is given between 50–70 million. So, all
The diaji needs are bought. We give you money. The result must be sold to all of me. Usually 2 weeks or 1 month, there is already a yield of about 100 kg. People who run my ship here are from galesong, but the workers or crews are also from other areas. From Gowa, Jeneponto and Maros. But my people are mostly Galesong people. (DN, 24th)

The money for the break is to pay for all the necessities before leaving. Each crew member is given 4 million, 5 - 6 crew members. We use a kinship/belief system. After all, in an ordinary ship, people are 1 family. In recent years the punggawa and sawi usually do not remain every year. Change. But it is not difficult to find a civilian. (HR, 62th)

From the informant's statement above, it can be concluded that the labor required for each torani fishing boat/vessel consists of 5-6 people, namely a punggawa / captain and 4–5 crew members. These workers are the nuclear family and close relatives. However, along with the development of the era, the workforce originated from a competitive labor market. Punggawa / captain comes from Galesong-Takalar but the crew can come from other areas in South Sulawesi, such as Gowa, Jeneponto, Maros, Barru and others. Prospective crew members have the freedom to choose which retainer to work for and can move to the next fishing season.

3.1.1.3. Knowledge and skills. Knowledge and skills in carrying out fishing egg fishing operations are knowledge passed down from generation to generation and based on local wisdom. This is as stated by the informant as follows:

'In patoranian, we still use the preparations according to Shara' that the parents did first. Before going down the house, we wait for a good voice, calm down, we can't go down carelessly. If there is a voice noodle, we hear that there is Anu's noodles, then we stand up, because it is true that the adayaji is being sought. So, if we are ready to go, we ask Allah SWT first, because Allah owns everything. So, we pray. (DT, 60th)

'If you want to go to sea there are still those who use these customs. If I'm just bismillah. Tawakal to Allah. Parents first. Indeed, he used it, Appa Rappo's name, Caru-Caru '. It's not just when we go down. These fish have a season, not every time they spawn. Month 4 starting until month 10. In the past, fishermen, especially patorani have to or about astrology, wind direction. But this is indeed hereditary taught by ki from parents. Now it's good because the boats use all of these engines, there is also GPS, which is important to operate. So, it's easier if you want to go to sea ' (NS, 49th)

From the above statement, it can be concluded that the Patorani fishermen in carrying out fishing operations, there are still those based on local wisdom and local knowledge possessed in the form of knowledge about sailing, knowledge of season and time of departure, knowledge of natural conditions (clouds, stars, moon, and lightning) and knowledge of coral clusters. While the skills needed are skills in operating all the fishing gears used.

The torani fishing community in managing, maintaining, and utilizing marine biological resources based on cultural norms and values through the use of method technology (software technology) and tool technology (hardware technology) which is participatory, associative, analogical, and institutional orientation and maintained through social control by each of its citizens.

The technology they use, for example, GPS to find out the torani fish crowd and determine the location of the catch. Technology has a very important role in supporting the successful operation of fishing egg
fishing. More broadly, this technology is one of the 3 pillars that can increase agricultural competitiveness [19].

3.1.2. The relations of production. The results of the research on the mode of production structure in the torani fish egg business of the Patorani community in Takalar district in the relation of production in informants (owners of capital, retainer/captain, and labor/crew) are presented in table 2.

Table 2. The relations of production fish egg business Torani in Takalar Regency.

| Observed indicators | Observation Results |
|---------------------|---------------------|
| 1. Social boundary of the relations of production | Labor comes from nuclear family and close family |
|                     | Furthermore, labor is dominated by a competitive labor market, as demand for the application of the capitalist system in torani fish egg business |
| 2. Structure of relations of production | The structure of production relations is in the form of 'employer of labor' |
| 3. The nature of the relations of production | The exploitation of a surplus in value absorbed by the owners of capital |
| 4. Marketing relations | The marketing system is tied to investors |
|                     | Retainer with own capital, free to market their products based on market prices |

3.1.2.1. The social boundaries of production relations. The selection of workers from the core workforce and close relatives is an effort to empower family members. In addition, it is intended to be a source of additional family income and pass on knowledge and skills in running the business of fishing for torani fish. This is as stated by the informant as follows:

So, at that time the boat used did not use an engine but a sail. Every boat is never lacking in crew. So, 10 people, 1 punggawa 9 ABK or sawi. Now, let 3 become noodles because it's a machine, 2 machines equal 4 people. So in the past there had to be a lot of people because of the screen, there had to be something to pull off, develop it. Started using machines in 1971. If I was a punggawa, my laborers were my own family, children, children, families, all in the village of Iniji too (DT, 60th)

Along with the development of the era where the market-oriented torani fish egg business, both domestic and export, expanded selection of workers is not limited to the core and immediate family members. Labor is more competitive in the labor market. This is as stated by the informant as follows:

I myself have 5 ships, but this year there are 15 ships from Barru. In 2014 there were two ships from Barru in 2015 to 5. 2016 was enough 8, 2017 so 10, 2018, 11 and now 2019 is quite 15 ships. They are the standard Summon. Many have moved here because the previous papalele was not transparent to the records of costs, they were only in total. If I detail what I give his leg '(HR, 62th)

3.1.2.2. The structure of production relationship. Structure of the production relationship that applies to the fishing business of torani fish is classified as exploitative "employer-laborer". Every worker has their respective duties and functions and gets wages based on their work.
3.1.2.3. Marketing Relationship. Torani fish egg business activities are market-oriented so that the use of technology and working capital is maximized to obtain optimal results. Market push leads to the exploitation of biological resources. Fishermen actors who obtain operational capital from papalele / investors are obliged to sell their catch to these investors. Based on the informant's acknowledgment that the products are still purchased based on market prices and then 8% deducted from the product price as part of capital participation in these activities. Unlike the case with their own capital and boats, they are not bound by these rules and can choose the traders they want to sell their products.

3.2. The articulation of mode of production

Patorani activities had historical value as the driving dynamics that construct the torani fishermen in Takalar district. Based on the informant's explanation, the torani (flying fish) fishermen are one of the fishermen groups which at the beginning of their existence were the oldest and traditional fishermen in Galesong, Takalar district. Based on the folklore circulating in the community, the origin of flying fishing was carried out by the brave men of the tubarani (the army of king of Galesong) who lost the war to help the Trunojoyo kingdom against the Dutch. After gathering in Pasuruan, East Java, they wanted to return to Makassar but because their war equipment had run out, they went back and forth in the Makassar Strait and saw many problems of flying fish and they disguised themselves as fishermen.

Table 3. Changes in the mode of production of the torani fish eggs business in Takalar district.

| Aspects of Production Mode | Non-Production Mode | Capitalist Production Mode |
|----------------------------|----------------------|---------------------------|
| A. Production Strength     |                      |                           |
| 1. Tools                   | Sailboat + pakkaja   | Engine boat + Pakkaja +   |
| 2. Labors                  | 8-10 people per boat, drawn from nuclear families and close relatives | 5-6 people per boat, drawn from the core workforce and close relatives as well as a competitive labor market |
| 3. Knowledge and Skills    | Local knowledge and wisdom | Local knowledge + modern technology (GPS) |
| B. Production Relations    |                      |                           |
| 1. Social boundaries       | family + close relatives | Company system |
| relationships nuclear      |                      |                           |
| 2. Relationship structure  | Egalitarian          | Hierarchical (employer labor) |
| 3. Nature of the relationship | Non-Exploitative | Exploitative |
| 4. Marketing relationships | needs subsistence    | Market orientation       |

The existence of torani fishermen is thought to have been in the 17th century and was known as traditional fishermen until the second half of the 20th century and is a subsistence torani fishing business. Towards the second half of the century, 20th-century effort fishing Torani commercial. Meanwhile, starting in the 2000s, the torani fish egg business became a capitalist business. From here emerged more than one mode of production which interacts and articulates in the way of production.

The theory of articulation of the mode of production is the result of the development of the Marxist theory to study the development of capitalism in developing countries. This theory departs from the concept of social formation. The concept of social formation basically departs from the main elements of a dominant
mode of production that is side by side with other modes of production, where the dominant mode of production extracts surplus labor from other modes of production which then builds an ideological and political system to legitimize the extraction process. Changes in the mode of production in the torani fish egg business can be seen in table 3.

4. Conclusion
The structure of the production model that takes place in the torani fish egg business is dominated by the capitalist production mode. In the aspect of production power, using fishing technology as a result of fisheries modernization (boats with engines and GPS), as well as maximizing the use of capital to optimize production. Whereas in production relations using systems such as companies, a hierarchical system (employer-labor) and market-oriented both domestic and export.

Acknowledgments
Our appreciation and gratitude go to the Indonesia Endowment Fund For Education (LPDP), the Doctoral Program at the Graduate School of Universitas Hasanuddin, Makassar and Andi Djemma Palopo University for its all support in the process of writing until complete this article.

References
[1] Risa N E W, Susilowati I and Wijayanto D 2016 Adaptasi nelayan Pattorani terhadap degradasi stok ikan terbang (Hirundichthys oxycephalus) di Kabupaten Takalar Prosiding SENIATI pp 96–9
[2] Yusuf J, Didi R, Ali S A and Indar Y N 2014 Studi kelembagaan dalam pengelolaan dan pemanfaatan telur ikan terbang (kasus Desa Pa’alalakang Kabupaten Takalar) 24 19–28
[3] Baso A 1997 Analisis Upaya Penangkapan Ikan Terbang di Kabupaten Takalar Thesis (Ujung Pandang: Universitas Hasanuddin)
[4] Badan Pusat Statistik Republik Indonesia 2017 Statistik Perikanan Tangkap Kementerian Kelautan dan Perikanan (Jakarta: Statistics Indonesia)
[5] Russel and James W 1989 Modes Of Production in World History (London and New York: Routledge)
[6] Kahn J S 1980 Minangkabau Social Formation, Indonesian Peasant and the World Economy (London: Cambridge University Press)
[7] Sztompka P 2004 Sosiologi Perubahan Sosial (Jakarta: Prenada)
[8] Clammer J 2003 Neo-Marxisme Antropologi: Studi Ekonomi Politik dan Pembangunan (Yogyakarta: Penerbit Sadasa)
[9] Sairin, Sjafri, et. al. 2002 Pengantar Antropologi Ekonomi (Yogyakarta: Penerbit Pustaka Pelajar)
[10] Budiman A 1995 Teori-Teori Pembangunan Dunia Ketiga (Jakarta: Gramedia)
[11] Satria A 2000 Modernisasi Perikanan dan Mobilitas Sosial Nelayan (Studi Kasus Nelayan Kanya L Kodya Pulau Pegunungan Jawa Tengah) Thesis (Bogor: Pascasarjana Institut Pertanian Bogor)
[12] Arief A A 2007 Artikelisasi Modernisasi dan Dinamika Formasi Sosial Nelayan Kepulauan di Sulawesi Selatan Dissertation (Makassar: PPS Unhas)
[13] Purnomo M 2005 Perubahan Struktur Ekonomi Lokal: Studi dinamika Moda Produksi di Desa Pegunungan Jawa Thesis (Bogor: Sekolah Pascasarjana Institut Pertanian Bogor)
[14] Salman D, Aisyah S R, Siregar A R and Baba S 2020 Coexistence mode of production based dairy cow supporting farming in producing biogas as renewable energy resources IOP Conf. Ser. Earth Environ. Sci. 473 012113
[15] Gunawan I 2015 Metode Penelitian Kualitatif, Teori dan Praktek 3rd Ed (Jakarta: Bumi Aksara)
[16] Miles M B and A M Huberment 1984 Qualitative Data Analysis 2nd Ed (California: Sage Publication Inc)
[17] Shanin T 1990 *Defining Peasant Essays Concerning Rural Societies, Exploary Economies, and Learning from them in the Contemporary World* 1st ed (Amazon: Blackwell Pub.)

[18] Halik H A, Salman D, Darma R, Arief A A and Rahmadanih 2020 Mode of production and sustainability of torani fishermen household livelihoods in Takalar District *IOP Conf. Ser. Earth Environ. Sci.* **473** 012152

[19] Arsal A, Salman D, Fahmid I M and Mahyuddin 2020 Agricultural competitiveness based on the pillars of infrastructure, capital, and technology in South Sulawesi, Indonesia *Int. J Sci. Tech. Res.* **9** 33-9