PI 10% Share Distribution Methods of
Oil & Gas Block for Province and Regency Area

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ABSTRACT

The PI 10% share distribution of the oil and gas block often creates conflicts between oil & gas producing provinces/ regencies. PERMEN No. 37/2016, the government tries to regulate the share distribution mechanism between the province and regency of the oil and gas producing areas. Nevertheless, the existence of this regulation does not necessarily satisfy the local governments. The local governments that have successfully achieved agreements for their share distribution of PI 10% include Cepu Block, ONWJ Block, and Mahakam Block. This paper will present the PI 10% share distribution method of two successful blocks in PI share distribution, namely A Block and B Block. Before the government assigned PERMEN No 37/2016, the distribution of share proportion was based on the agreement between provinces/regencies producing area, such as using the DBH system method as conducted in A Block. Meanwhile, the calculation of PI share distribution in the B Block used two methods; the PERMEN No.37/2016 method (only used two parameters; reservoir closure area and the producing reserves as well as POD fields) was applied to share proportion distribution between DKI Jakarta and West Java Provinces, and a method that the West Java Province agreed and their Regencies Governments; the weighting method. The technique considered some parameters related to oil and gas producing activity such as block acreage, a reserve of producing field, prospect, lead, and the existing production facilities such as pipeline, well, platform, etc. The DBH method still has a potential conflict between local governments due to only considering the reservoir closure area and the reserves. The weighting method could be applied as an alternative method. In this method, the share proportion distribution of PI 10% is not limited to the regency area that has the producing/development fields. The non-producing regencies within the oil and gas block that have oil and gas potential resources (prospect and lead) or passed by oil and gas producing facilities (wells, pipelines, platforms, etc.) also have the right to obtain the share of PI 10%; the oil and gas activities have a direct impact in their areas. Hopefully, by using this alternative method, the conflict between local governments can be resolved.

Keywords: Distribution share, Local Governments, Oil and Gas Block, PI 10%, Participating Interest

INTRODUCTION

To develop the local companies to participate in the oil and gas business, the government has allowed managing their region's oil and gas resources. It has been manifested within the regulation of Article 34 of the PP 35/2004; the contractor of oil and gas working area that has a Plan of Development (POD) approval to produce their first field has obliged to offer Participating Interest 10% ("PI 10%) to the local company [1].

Not only for the first POD field, but the regulation of PI 10% offer is also valid for oil and gas working areas that have been expired their contract; the government has issued Permen ESDM No. 15/2015, and then it

updated by Permen ESDM No. 23/2018 of the regulation of the oil and gas working area that expired their contract. Meanwhile, the PI 10% share distribution regulation between the province and regency/city was mentioned on Permen ESDM No 37/2016 Regulation of offering PI 10% in the Oil and gas Working area [2].

Based on the above information, the opportunity for the local company to obtain the right of PI 10% on oil and gas working area has been set by Government regulation. Nevertheless, the PI 10% share distribution conflict is still occurring in the regions between the province and regencies. The existence of the rules of PI 10% share distribution mentioned in Permen No 37/2016 does not necessarily satisfy the local governments.

One of the sources of conflict is not understanding the oil and gas accumulation pattern and model in the subsurface. The accumulation does not recognize the administrative boundary. Due to oil and gas production on lands, such as exploration, oil wells, and their impact on local society, the local government claims that the oil production is only coming from their region. Of course, the claim will be opposed by the other regencies and provinces with oil and gas potential in the same block.

This paper will discuss the methods used in PI 10% share distribution, Permen ESDM No. 37/2016 strategy, and the others method before it. The A and B Block are chosen as the example cases in the PI 10% share distribution.

DATA AND METHOD

As mentioned above, this paper will explain the share distribution mechanism from two (2) blocks. Three methods are applied: the DBH method, Weighting Method, and Permen No. 37/2016 Method.

Revenue Sharing Fund (DBH) Method

Share distribution between the province and the regency based on the analogy of the distribution of Fiscal Balance Between the Central Government and the Regional Governments was proposed by IAGI to calculate the share distribution of PI in the A Block. The Revenue Sharing Fund (DBH) Method was also applied to calculate the percentage of oil and gas reserves/resources data in the B Block.

In DBH method explained the province and regency authority of their natural resources based on the position of the sea territory. DBH regulation is referred to the Law No. 33/2004, Law No. 32/2004, and Government Regulation PP No. 55/2005. The natural resources located on the coastline, up to 4-mile seaward, are part of the regencies/municipality's authority. Meanwhile, 4 – 12-mile seaward is part of the province authority, and exceeding the 12-mile seaward is the central government authority [3] (Law No. 32/2004 of Regional Administration article 18.4) (Figure 1).

Oil and Gas DBH Regulation

The rule of DBH for oil and gas is mentioned in Law No 33/2004 articles 14e and f. The detailed DBH distribution in the province and the regency refers to Law No. 33/2004 Article 19-20 and article 21-24 of PP No. 55/2005. Understanding the distribution of oil and gas DBH related to the oil and gas resources position can be seen in Tables 1 and 2.
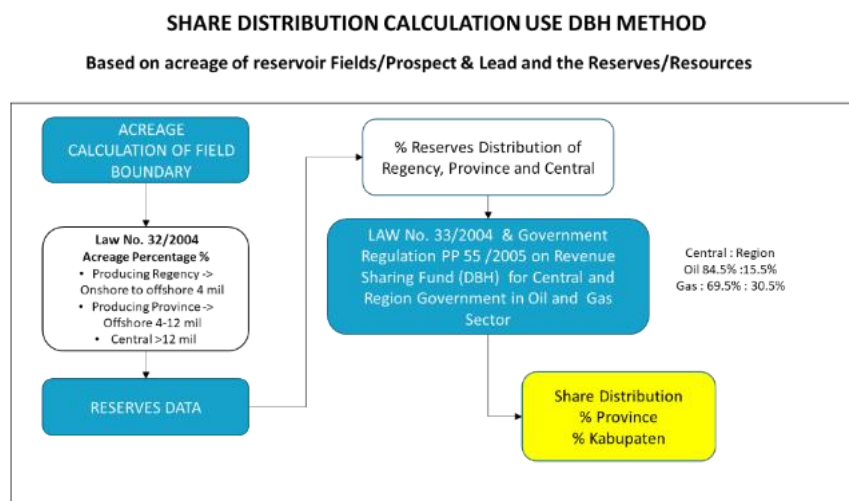
Figure 1. DBH Share Distribution Method between the Province and Regency

Table 1 DBH Distribution between Producing Province and Regency

Oil			
AREA < 4 mil			
	DBH	Education Fund	Total
Province	3%	0.10%	3.10%
Producing Regency	6%	0.20%	6.20%
All Regencies	6%	0.20%	6.20%
TOTAL	15.00%	0.50%	15.50%

OIL			
AREA 4 mil - 12 mil			
	DBH	Education Fund	Total
Province	5%	0.17%	5.17%
All Regencies	10%	0.33%	10.33%
TOTAL	15.00%	0.50%	15.50%

GAS			
AREA < 4 mil			
	DBH	Education Fund	Total
Province	6%	0.10%	6.10%
Producing Regency	12%	0.20%	12.20%
All Regencies	12%	0.20%	12.20%
TOTAL	30.00%	0.50%	30.50%

GAS			
AREA 4 mil - 12 mil			
	DBH	Education Fund	Total
Province	10%	0.17%	10.17%
All Regencies	20%	0.33%	20.33%
TOTAL	30.00%	0.50%	30.50%

Table 2 DBH Distribution between the Producing and Regency Provinces (Non producing regency percentage includes Province share)

OIL			
AREA < 4 mil			
	DBH	Education Fund	Total
Province (%Prov. + % Non Prod Regency	9%	0.30%	9.30%
Producing Regency	6%	0.20%	6.20%
TOTAL	15.00%	0.50%	15.50%

GAS			
AREA < 4 mil			
	DBH	Education Fund	Total
Province (%Prov. + % Non Prod Regency	18%	0.30%	18.30%
Producing Regency	12%	0.20%	12.20%
TOTAL	30.00%	0.50%	30.50%

OIL			
AREA 4 mil - 12 mil			
	DBH	Education Fund	Total
Province	5%	0.17%	5.17%
All Regencies	10%	0.33%	10.33%
TOTAL	15.00%	0.50%	15.50%

GAS			
AREA 4 mil - 12 mil			
	DBH	Education Fund	Total
Province	10%	0.17%	10.17%
All Regencies	20%	0.33%	20.33%
TOTAL	30.00%	0.50%	30.50%

For oil, the percentage balance for oil mining is 84.5% for Central Government and 15.5% for Regional Government [3,4]. There are two conditions of the DBH distribution; producing regency and producing province. DBH for oil at 15% for producing regency shall be distributed as follows: 3 % for the province, 6 % for the producing regency, and 6 % for other regencies within the province concerned. Education is allocated at 0.5 %, shall be distributed as follows: 0.1 % for the province concerned, 0.2 % for the producing regency, and 0.2 % for other regencies within the province concerned. Meanwhile, DBH for oil at 15% for producing province shall be distributed as follows: 5% for the producing field and 10% for other regencies within the province concerned. Education is allocated at 0.5 %, shall be distributed as follows: 0.17% for the producing field and 0.33 % for other regencies within the province concerned.

The percentage balance between Central Government and Regional government for natural gas mining is 69.5% for Central Government and 30.5 for Regional Government. DBH for natural gas at 30% for producing regency shall be distributed as follows: 6 % for the province, 12 % for the producing regency/City, and 12 % for other regencies within the province concerned. Education is allocated at 0.5 %, shall be distributed as follows: 0.1 % for the province concerned, 0.2 % for the producing regency/City, and 0.2 % for other regencies within the province concerned. Meanwhile, DBH for natural gas at 30% for producing provinces shall be distributed as follows: 10% for the producing province and 20% for other regencies/cities within the province concerned. Education is allocated at 0.5 %, shall be distributed as follows: 0.17% for the producing field and 0.33 % for other

regencies/cities within the province concerned. Understanding the distribution of oil and gas DBH related to the oil and gas resources position can be seen in Tables 1 and 2.

DBH Distribution between the Producing Province and Producing Regency

There are various methods to interpret the calculation of the share distribution of PI 10% in the producing province and the producing regency based on DBH. There are two cases of DBH calculating that are related to the non-producing regency: The percentage non producing regencies were not calculated because the non-producing regency has no right in managing the share PI (A Block Case), and the percentage of non producing regencies to be part of the province considering that the region has an obligation to distribute its revenue to all non-producing regencies. (B Block Case)

Case-1, the percentage calculation of the province and the producing regency for oil to be:

- producing Regency/City = 6/9 parts = 0,66666667;
- province = 3/9 parts = 0,33333333.

The denominator nine (9) results from subtracting the total non-producing regencies, where 15 minus six (6) is nine (9). Meanwhile, the percentage calculation of the province and the producing regency for natural gas to be:

- Producing Regency/City= 12/18 parts = 0,66666667;
- Province = 6/18 parts = 0,33333333

The denominator 18 results from subtracting the total non-producing regencies, where 30 minus 12 is 18.

Case-2, the percentage distribution of the province and the regencies depended on the number of the regencies. The definition of the

producing regency was the regency that had the structure (reservoir/reserves and well). In the B case, the percentage non producing regency is included in the province share. The

share distribution calculation between the producing province and regency can be seen in Table 3.

Table 3. Share Distribution Based on PERMEN No.37/2016 Method

AREA	Onshore Area to offshore < 4 mil		Offshore Area 4 < x < 12 mil
	Reservoir is located in 1 (one) Regency/city	Reservoir is located in more than 1 (one) Regency/city	
Province	50%	the percentage allocation of participating shares of the province and a number of regencies/ cities shall be coordinated by the Governor with the involvement of the regent/ mayor in whose administrative domain the field with the approved development plan is located	100%
Producing Regency	50%		
TOTAL	100%		100%

In Oil Case-2, the percentage balance between Central Government and the Regional Government for oil mining is 84.5% for the central and 15.5% for the regional government. DBH for oil at 15%, the percentage for producing regency/City to be:

- 9 % for Province (3% Province + 6% non-producing regency/City);
- 6 % for producing regency/City.

For education allocation as of 0,5 %, the percentage distributed are as follows:

- 0.3 % for the province concerned (0.1% province + 0.2% no producing regencies);
- 0.2 % for producing regency.

DBH for oil at 15%, the percentage for producing province to be Province + non producing regency (5.17% + 8.81%) = 13.98%. The percentage of non-producing regencies, 8.81%, comes from all regencies within the province (10.33%) minus the portion of the producing regencies. In west Java Province, there are four producing regencies, for each regency will obtain 1/27-part of 10.33%, as of 0.38%. Because the number of the producing regency is four regencies, the total percentage of the

producing regencies is 4 x 0.38% = 1.52%. The total percentage of non-producing regency is 10.33% - 1.52% = 8.81%. According to the above description, the calculation percentage distribution of the province and the producing regency become:

- Province: 13.98/15.5 = 0.9 parts;
- Producing Regency: 0.38/15.5 = 0.025 parts.

In natural gas Case-2, The percentage balance between Central Government and Regional government for natural gas mining is 69.5% for Central Government and 30.5% for Regional Government. DBH for natural gas at 30%, the percentage for producing regency:

- 18 % for the province (6% province + 12 % non-producing regencies);
- 12 % for the producing regency.

For education is allocated at 0.5 %, the percentage producing regency:

- 0.3 % for the province concerned (0.1 of the province + 0.2 % of the other non-producing regencies);
- 0.2 % for the producing regency.

The detailed distribution DBH for natural gas as of 30.5%, the percentage of the producing

province is as follows: Province + non-producing regency (10.17% + 17.33%), is 27.5%. The percentage of non-producing regencies is 17.33%, coming from all regencies within the province (20.33%) minus the portion of the producing regencies. In west Java Province, there are four producing regencies, for each regency will obtain 1/27-part of 20.33%, as of 0.75%. Because there are four producing regencies, the total percentage of the producing regencies is 4 x 0.75% = 3%. The total percentage of non-producing regency is 20.33%- 3% = 17.33%. According to the above, the calculation percentage distribution of the province and the producing regency become:

- Province: 27.5/30.5 = 0.9 parts;
- Producing Regency: 0.75/30.5 = 0.025 parts.

Weighting Methods

The interest level of the asset defines the weighting of oil and gas production in the B Block. The weighting method of share proportion distribution of the PI 10% B Block is based on reserves/resources and production facility data. Then, the weighting was executed from the percentage of the reserves/resources and the Production Facility.

Platforms. Pipeline and Onshore Receiving Facility (ORF) for each area. For calculating the percentage, the reserves/resources data use the DBH system, while for production facility data, the percentage is calculated from the number of wells.

The amount of the B Block interest is calculated based on eight categories. The eight categories are the remaining reserve of production field, POD field reserves and undeveloped Discovery, resources of prospect and lead, the number of wells, pipeline,

platform, and ORF. The weight value has been defined for each category. The total weighting value is 100. (Figure 2).
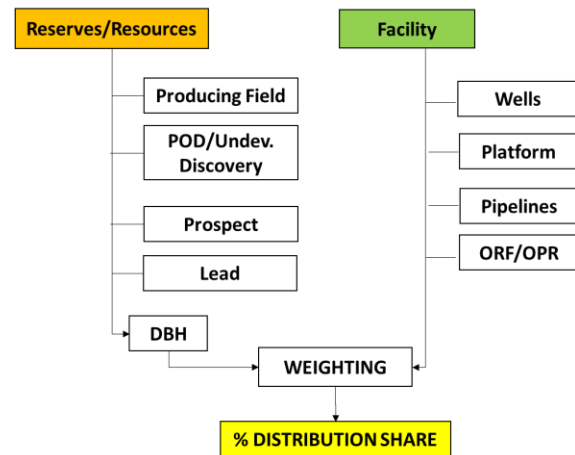

Figure 2. Weighting Method

The weight value was determined by the risk and the interest level in oil and gas production. The weight value was defined through a discussion process between all parties.

Permen ESDM No.37/2016 Method

The share distribution method is a method that considers the large reservoir distribution area of the oil and gas reserves to be produced [2]. The share proportion distribution mechanism for a local company in managing PI 10% has been established in Article 5 of Permen ESDM No.37/2016:

(1) *The percentage allocation of participating shares of the province and/or regency/city in a Regional Owned Enterprise as referred to in Article 4 letter a and the determination of the amount of participating interest to be offered to each province as referred to in Article 4 letter c, shall be based on the reservoir distribution area of the oil and gas reserves to be produced in each province/ regency/ city.*

(2) In the event all the reservoir distribution of oil and gas reserves as referred to in Article 4 letter a is located in 1 (one) regency/city, the percentage allocation of participating shares of the province or regency/ city shall be set at 50% (fifty percent) each.

(3) In the event all the reservoir distribution of oil and gas reserves as referred to in Article 4 letter a is located in more than 1 (one) regency/city, the percentage allocation of participating shares of the province and several regencies/ cities shall be coordinated by the Governor with the involvement of the regent/ mayor in whose administrative domain the field with the approved development plan is located.

The mechanism for reservoir distribution that located into 1 (one) regency, the amount of the reserves is divided the percentage between Producing Province dan Regency 50%:50%, meanwhile for a reservoir that located in province area, 100% of the reserves to be part of Province [2] (Figure 3). The first step of this method is to calculate the percentage of the reservoir distribution acreage area for each province and regency. Then the result is converted into some remaining reserves.
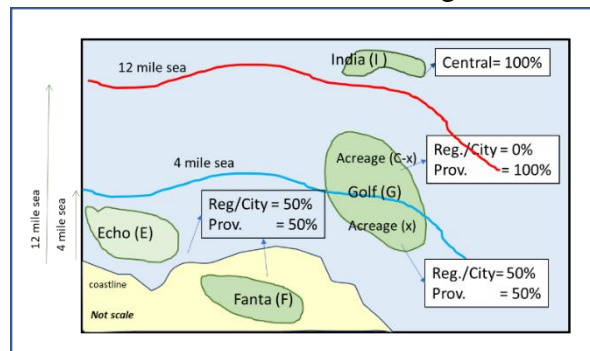
No.	Field	Location	Percentage	Acreage (for example)	Rem. Reserves (for example)	% acreage reservoir			Reserves Allocation (MMBOE)		
						BUMD Reg./City	BUMD Province	Central	BUMD Reg./City	BUMD Prov.	Central
1	Echo	onshore	BUMD Reg./City = 50%		E = 10 MMBOE	100%	0%	0%	50% x % Reg/city area x E / 50% x100% x 10 = 5 MMBOE	50% x % Reg/city area x E / 50% x 100% x 10 = 5 MMBOE	0%
			Prov. = 50%								
2	Fanta	<4 mile	BUMD Reg/City = 50%		F = 20 MMBOE	100%	0%	0%	50% x % Reg/city area x F / 50% x 100% x 20 = 10 MMBOE	50% x % Reg/city area x F / 50% x 100% x 20 = 10 MMBOE	0%
			Prov. = 50%								
3	Golf	<4 Mile, and 4-12 mile	Reservoir acreage up to 4 mile (X)	C = 50 km2 , x = 20 km2	G = 50 MMBOE	% area = x/C	% area = (C-x)/C	0%	% reg/city area x 50% x G	% reg/city area 50% x G	0%
			BUMD Reg/City = 50%			40%	60%		40% x 50% x 50 =10 MMBOE	(40%x50% x50) = 10 MMBOE	
			Prov. = 50%								
			Reservoir acreage > 4 mile			% area = 0%	% area = (C-x)/C	0%	0	% prov. acreage x 100% x G	0%
			BUMD Reg./City = 0% / Prov. = 100% (C-X)			0%	60%			60%x 100% x 50 = 30	
4	Hotel	> 12 mile	BUMD Reg/City = 0%		H= 5 MMBOE	0%	0%	% area	0	0	% central X H
			BUMD Prov = 0% / Central = 100%					100%			100% x 5 = 5 MMBOE
					% Participating share Allocation (without Central) = Reg/Prov. Reserves allocation/ Total Reserves without Central				(5 + 10 + 10)/80 = 31.25%	(5 + 10 + 10+30)/80 = 68.75%	

Figure 3. A Calculation of Share Distribution Between the Province and Regency Based on Permen No. 37/2016 Method

The A Block Review

The A Block is onshore with an acreage area of 912.2 km2 (original 1886.18 km2). The block is located in two provinces and three regencies; Central Java Province, East Java Province, Blora Regency, Bojonegoro Regency, and Tuban Regency. The Tuban Regency is a non-producing area due to no reservoir structure available in this area (Figure 4).

The A Block has a giant field, the Banyuurip Field, Mobil Oil Cepu found the field, currently one of Indonesia's largest oil producers. The Banyuurip had recoverable reserves initially estimated at over 400 million barrels. The block also contains other sizeable oil and gas fields, including Kedung Keris, Alas Tua East, and Alas Tua West [5].
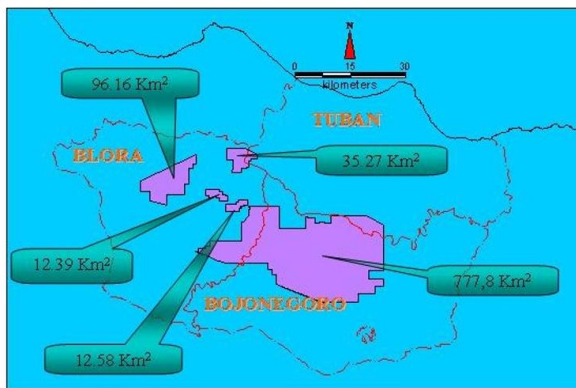
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Figure 4. The working area of A PSC (IAGI, 2005)

Figure 5 shows a map distribution of Field, Prospect, and Lead in A Block, and

Table 4 is the list of the prospects in A Block and its surroundings. There were 30 prospects listed in this area [6]. The oil and gas reserves and resources in the East and Central Java area, either located in A Block or outside of the block, were approximated as 810 MMBOE (proved) and 4487 MMBOE (unproven). In the Blora Regency, the total proven reserves of 165 MMBOE and 1713 MMBOE as unproven reserves. In the Bojonegoro Regency, the proven reserves were 645 MMBOE and 2612 MMMBOE of unproven reserves, and they are not drilled yet (Table 5).
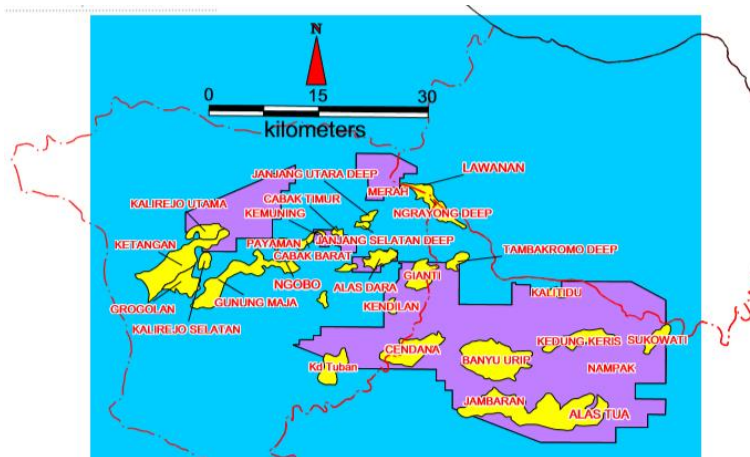

Figure 5. Location of field, prospect, and lead in A Block (IAGI, 2005)

Table 4. The list of Prospects and Lead in A Block and the oil and gas potential (IAGI, 2005)

NO	NAMA PROSPEK	SQ KM LUAS TOTAL	RESERVES (MMBOE)
1.	Banyuurip	39,89	490
2.	Ketangan	33,35	292
3.	Alastua	66	1090
4.	Cendana	21,97	75
5.	Jambaran	66	80
6.	Kedung Keris	14,15	619
7.	Kd Tuban	8,836	80
8.	Wado	8,836	457
9.	Gianti	12,61	513
10.	Grogolan	11,27	72
11.	Gunung Maja	29,36	69
12.	Ngrayong Deep	15,38	334
13.	Kalirejo Utara	8,039	53
14.	Lawanan	15,38	201
15.	Alas Dara	8,186	20
16.	Ngodo	29,26	141
17.	Payaman	2,32	124
18.	Tambakromo	4,704	349
19.	Kendilan	2,73	348
20.	Janjang Deep Utara	2,263	348
21.	Kalirejo Selatan	3,576	348
22.	Kemuning	1,253	70
23.	Pasar Sore	2,299	41
24.	Kalitidu	2,848	4
25.	Nampak	2,068	38
26.	Galuk	2,031	3
27.	Janjang Deep	1,662	3
28.	Cabak Timur	1,483	3
29.	Cabak	2,885	2
30.	Merah	1,309	5
31.	Sukowati	6,905	35

Table 5. The oil and gas potential in Blora ad Bojonegoro Regency (IAGI, 2005)

Reserves/Resources of Blora Regency		
NO	Resources	Potensial Resources (MMBOE)
1.	Kalirejo (P50)	22
2.	Cabak Barat (P50)	0,04
3.	Cabak Timur (P50)	0,90
4.	Pasar Sore (P50)	4
5. *	Alas Dara (P50)	15
6.	Merah (P50)	1
7.	Gianti (P50)	208
8.	Kendilan (P50)	174
9. *	Cendana (P90)	13
10.	Ketangan (P50)	18
11. *	Kemuning (P90)	63
12.	Wado (P50)	228

Reserves/Resources of Bojonegoro Regency		
NO	Resources	Potensial Resources (MMBOE)
1.	Gianti (P50)	36
2.	Tambak Kromo Deep (P50)	62
3. *	Cendana (P90)	54
4. *	Banyuurip (P90)	441
5. *	Jambaran (P50)	72
6.	Alas Tua (P50)	545
7.	Kalitidu (P50)	0,67
8.	Nampak (P50)	19
9.	Kedung Keris (P50)	310

*) Proven Reserves

Negotiations between PERTAMINA and ExxonMobil to extend the A-TAC contract resulted in the A PSC, signed in September 2005, with ExxonMobil as the operator. In 2005, PERTAMINA EP CEPU (PEPC) and ExxonMobil signed a new 30-year PSC, followed by a 2006 joint operating agreement that allowed development to begin. The production commencement in the year 2008 from the Banyuurip Field. In 2020 the Banyuurip Field reached a peak production at around 220 MBOPD.

On January 26, 2009, the government signed the Deed of Assignment (DoA) of the PI 10% A Block. The ownership of the block was initially shared equally between PERTAMINA and ExxonMobil. Following prolonged negotiations, a 10% stake was awarded to four companies owned by Java regional governments. Need three years for the regional government to get the PI 10%.

The B Block Review

The B Block is located north of the West Java Sea, starting from Cirebon to the Thousand Island area. The block has an 8279.29 km2 with 17-55 m water depth. The producing regions related to the B Block are two Provinces (West Java and DKI Jakarta) and four regencies (Indramayu, Subang, Bekasi, and Karawang).

The B Block is located in the North West Java Basin. The block comprises four complex areas; North West Corner, Bima, Arjuna, and Arimbi complex. The oil gas potential of the B Block consists of more than 50 producing fields, > 40 POD fields, and Undeveloped Discoveries, >35 prospects and leads [7] (Figure 6).

The age of production facilities in the B Block is 20-40 years, consisting of 218 structures, 1900 km pipeline, 11 Crewed flow stations (37 platforms), >150 NUls/remote platforms, around 800 wells, three ORF, and 1 Onshore Processing Facility (which are located in Muara Karang, Tanjung Priuk, Cimalaya, and Balongan) and an FPSO Adjuna [8] (Figure 7).
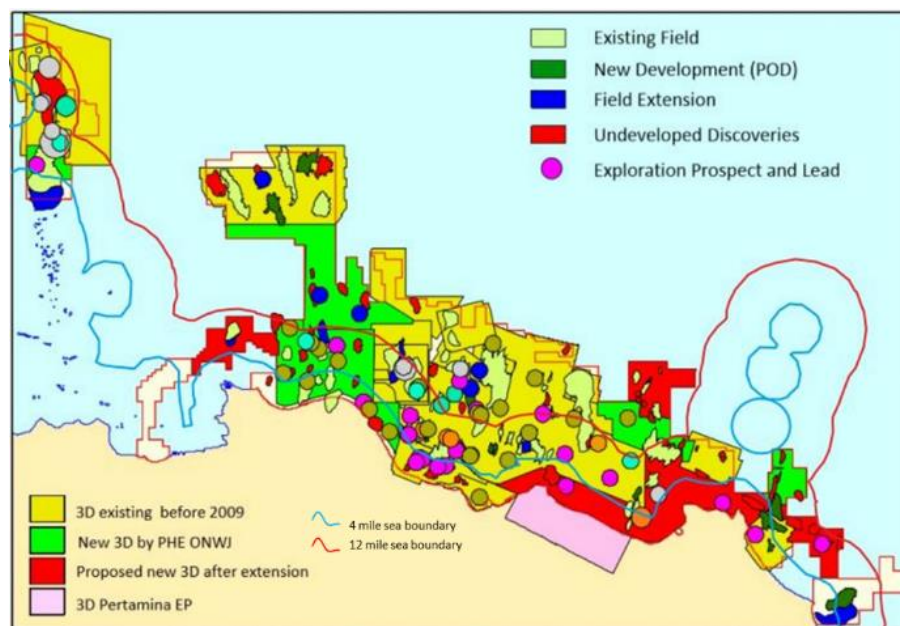

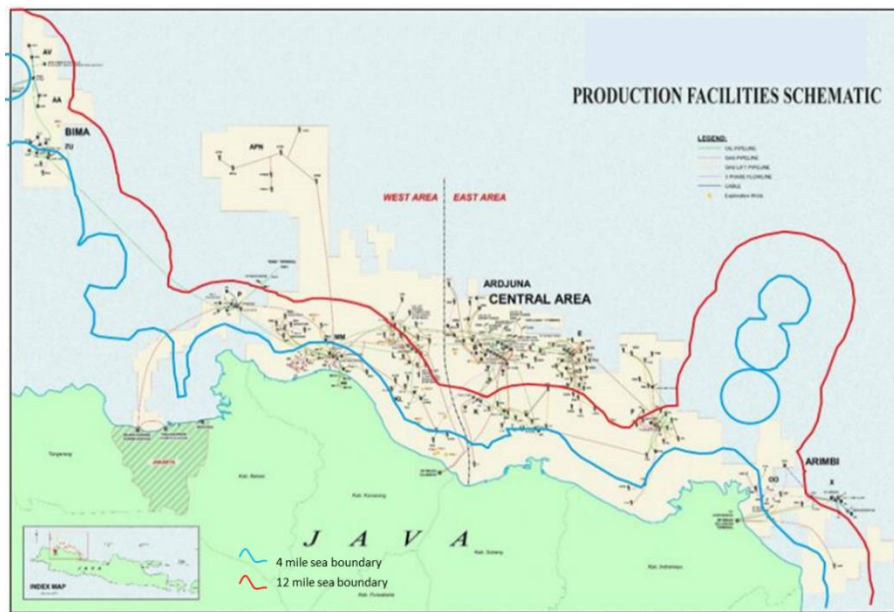Figure 6. Hydrocarbon Potential in the B Block (Modified from [7])

Figure 7. Production Facility Distribution in the B Block (modified from [8])

The B Block has been operated since August 1966 and occurred twice contract extensions. The first gas discovery of the block was found in 1968, namely the A structure, and the E structure was found as oil-producing the following year. Currently, the E-Main Field is the largest oil-producing in this block. For more than 45 years, the block has been produced since 1971. The maximum production reached 175,000 BOPD of oil in 1977 and 375 MMCFD of gas in 1997. The current production of around 40,000 BOPD and 178 MMCFD (2015) and the 2P remaining reserves was a round of 1 TCF and 400 MMBO.

The history of the B Block started in August 1966 with signed the PSC contract by IIAPCO and Pertamina for 30 years (1967-1997). The first contract extension expired, and the contract extension was given to Pertamina 100% in January 2017 by the government. Pertamina has obligate to offer PI 10% right to BUMD. In February 2019, the PI 10% share was officially transferred to BUMD Migas Hulu Jabar [9].

RESULTS AND DISCUSSION
PI Share Distribution of the A Block

The PI share Distribution Calculation of A Block in 2005 was published by IAGI. The producing area is Central Java, East Java Province, Blora Regency, and Bojonegoro Regency. Based on the pseudo reserves of each regency, the Bojonegoro Regency had 67,26971906 % and the Blora Regency 32,73028094 %. IAGI has made analog with the calculation of Financial Balance Between the Central Government and the Regional Governments to calculate the distribution share of PI 10% A Block, and the result was as follows:

- Bojonegoro Regency: DBH Producing Regency x percentage reserves of Bojonegoro = 0,66666667 x 67,26971906% = 44,84647960%. Converting to PI 10%, the PI share to be: 44,84647960% x 10% = 4,484647960%;
- East Java Province: DBH Producing Province x percentage reserves of East Java Province = 0,33333333 x 67,26971906% = 22,42323946%.

Converting to PI 10%, the PI share to be: 22,42323946% x 10% = 2,242323946%;

- Blora Regency: DBH Producing Regency x percentage reserves of Blora = 0,66666667 x 32,73028094% = 21,82018740%. Converting to PI 10%, the PI share to be: 21,82018740% x 10% = 2,182018740%;

- Central Java Povince: DBH Producing Province x percentage reserves of Central Java Province = 0,33333333 x 32,73028094% = 10,91009394%. Converting to PI 10%, the PI share to be: 10,91009394% x 10% = 1,091009394%.

PI Share Distribution of the B Block

The reserves/resources percentage calculation was divided into production field, POD Field & Undeveloped Discovery, prospect, and lead (Table 6). The whole producing field in the B Block is more than 50 fields. The percentage calculation of production field reserves for each province and regency/city is as follows: Bekasi 1.83%; Indramayu 2.05%; Karawang (5.92%);

Subang (2.10%); West Java Province 74.18%; and DKI Jakarta Province 13.92%. The total POD Field & Undeveloped Discovery in the B Block was more than 40 Fields. The percentage calculation of the POD Field & Undeveloped Discovery reserves for each province and regency/city was as follows: Bekasi 3.62%; Indramayu 1.27%; Karawang 10.08%; Subang 1.27%; West Java Province 63.50%) and DKI Jakarta Province 20.25%. The number of prospects in the B Block was more than 15 prospects. The result percentage calculation of prospect resources for each province and regency/city was as follows: Bekasi 1.55%; Indramayu 4.18%; Karawang 11.17%; Subang 4.04%; West Java Province 79.07%; and DKI Jakarta Province 0%. The number of leads in the B Block was more than 15 leads. The result percentage calculation of lead resources for each province and regency/city was as follows: Bekasi 1.5%; Indramayu 14.98%; Karawang 3.55%; Subang 1.5%; West Java Province 78.48%; and DKI Jakarta Province 0%.

Table 7. Percentage Calculation of Reserves/Resources of Producing fields, POD & Undeveloped discovery, Prospect and Lead use the DBH Method

NO.	REG./PROV/CENTRAL	PRODUCING %	POD / UNDEV. %	PROSPECT %	LEAD %
1	BEKASI	1.83%	3.62%	1.55%	1.50%
2	INDRAMAYU	2.05%	1.27%	4.18%	14.98%
3	KARAWANG	5.92%	10.08%	11.17%	3.55%
4	SUBANG	2.10%	1.27%	4.04%	1.50%
5	PROV. JABAR	74.18%	63.50%	79.07%	78.48%
6	PROV. DKI JAKARTA	13.92%	20.25%	0.00%	0.00%
	TOTAL	100.00%	100.00%	100.00%	100.00%

The oil and gas production facility in the B Block was calculated: the number of wells, pipelines, platforms, and ORF, as seen in Table 8. The total well in the B Block, known for its location, was around 800 wells. About 300 wells located in exceed 12-mile sea belong to the Central Government authority. The percentage well calculation did not include the

Central Government part. The percentage of the existing wells in Bekasi is 0.19%; Indramayu 3.51%; Karawang 10.33%; Subang 1.36%; West Java Province 58.67%; DKI Jakarta Province 25.93%. The total pipeline length of the B Block was around 1900 km. The percentage pipeline length for each area was Bekasi 0%; Indramayu 4%; Karawang

8.68%; Subang 5.69%; West Java Province 75.71%; and DKI Jakarta Province 5.93%. The total platform in the B Block was more than 150 platforms, with around 80 platforms located in the Central authority. The other platforms were distributed in Indramayu at 1.8%; Karawang at 19.82%; Subang at 0.9%;

West Java Province at 68.47%; and DKI Jakarta Province at 9.01%.

The total ORF is four. They located in Indramayu (ORF Balongan), Karawang (ORF Cilamaya), and DKI Jakarta Province (ORF Muara Karang and Tanjung Periuk).

Table 8. Percentage Calculation of production facility distribution in Province and Regency

NO.	REG./PROV/CENTRAL	% WELL	% PLATFORM	% ORF	% PIPELINE
1	BEKASI	0.19%	0.00%	0.00%	0.00%
2	INDRAMAYU	3.51%	1.80%	25.00%	4.00%
3	KARAWANG	10.33%	19.82%	0.00%	8.68%
4	SUBANG	1.36%	0.90%	25.00%	5.69%
5	PROV. JABAR	58.67%	68.47%	0.00%	75.71%
6	PROV. DKI JAKARTA	25.93%	9.01%	50.00%	5.93%
	TOTAL	100.00%	100.00%	100.00%	100.00%

Weighting Result

The PI share distribution calculation of the B Block used the weighting method. The weight determination is based on oil and gas production's risk and interest level. Eight categories were calculated, and the weight value was determined through a discussion process among all the parties. The weight value of the remaining reserves of producing field was 30, POD & undeveloped discovery

reserves 20, prospect resources 15, lead resources 12, well 10, pipeline 6, platform 4, and ORF 3. The total weight value was 100.

The PI share distribution of the B Block for each province and regency is Bekasi 1.7%; Indramayu 4.71%; Karawang 8.24%; Subang 2.93%; West Java Province 69.38%; and DKI Jakarta Province 13.04% (Table 9 and 10). PI 10% Share Calculation Based on Permen ESDM No.37/2016.

Table 9. Share Distribution Calculation in B Block uses the Weighting Method.

NO.	METHOD	WEIGHT	BEKASI		INDRAMAYU		KARAWANG	
			%	% X Weight	%	% X Weight	%	% X Bobot
1	REMAINING RESERVES OF PRODUCING FIELD (DBH)	30	1.83%	54.90%	2.05%	61.50%	5.92%	177.60%
2	RESERVES OF POD FIELD & UNDEV. DISCOVERY (DBH)	20	3.62%	72.40%	1.28%	25.60%	10.08%	201.60%
3	RESOURCES OF PROSPECT (DBH)	15	1.55%	23.25%	4.18%	62.70%	11.17%	167.55%
4	RESOURCES OF LEAD (DBH)	12	1.50%	18.00%	14.98%	179.76%	3.55%	42.60%
5	WELLS	10	0.19%	1.90%	3.51%	35.10%	10.33%	103.30%
6	PIPELINES	6	0.00%	0.00%	4.00%	24.00%	8.68%	52.08%
7	PLATFORM	4	0.00%	0.00%	1.80%	7.20%	19.82%	79.28%
8	ONSHORE RECEIVING/PROCESSING FACILITY	3	0.00%	0.00%	25.00%	75.00%	0.00%	0.00%
	TOTAL	100		170.45%		470.86%		824.01%
	(% X Weight) / ∑Weight			1.70%		4.71%		8.24%

NO.	METHOD	WEIGHT	SUBANG		PROV. WEST JAVA		PROV. DKI JAKARTA		TOTAL PERCENTAGE
			%	% X Weight	%	% X Weight	%	% X Weight	% X Weight
1	REMAINING RESERVES OF PRODUCING FIELD (DBH)	30	2.10%	63.00%	74.18%	2225.40%	13.92%	417.60%	100.00%
2	RESERVES OF POD FIELD & UNDEV. DISCOVERY (DBH)	20	1.27%	25.40%	63.50%	1270.00%	20.25%	405.00%	100.00%
3	RESOURCES OF PROSPECT (DBH)	15	4.04%	60.60%	79.06%	1185.90%	0.00%	0.00%	100.00%
4	RESOURCES OF LEAD (DBH)	12	1.50%	18.00%	78.47%	941.64%	0.00%	0.00%	100.00%
5	WELLS	10	1.36%	13.60%	58.68%	586.80%	25.93%	259.30%	100.00%
6	PIPELINES	6	5.69%	34.14%	75.70%	454.20%	5.93%	35.58%	100.00%
7	PLATFORM	4	0.90%	3.60%	68.47%	273.88%	9.01%	36.04%	100.00%
8	ONSHORE RECEIVING/PROCESSING FACILITY	3	25.00%	75.00%	0.00%	0.00%	50.00%	150.00%	100.00%
	TOTAL	100		293.34%		6937.82%		1303.52%	
	(% X Weight) / ∑Weight			2.93%		69.38%		13.04%	100.00%

Table 10. Share calculation result of PI.

SHARE CALCULATION RESULT OF PI	
REGENCY/PROVINCE	PERCENTAGE
BEKASI	1.70%
INDRAMAYU	4.71%
KARAWANG	8.24%
SUBANG	2.93%
WEST JABAR PROV.	69.38%
DKI JAKARTA PROV.	13.04%
TOTAL	100.00%

After Permen ESDM No 37/2016 was issued and contained regulation of PI 10% participating share allocation between the producing province and Regency/City, the PI 10% share distribution in the B Block was recalculated using this regulation. The result did not satisfy all the parties. The share calculation result declined for all regencies. Even the Bekasi Regency did not have to participate in share allocation. Hence, the producing regencies in West Java Province agree to use the previous method or the weighting method.

Using Permen ESDM No 37/2016 mechanism, the calculated reservoir produces a field or approved POD Field. The B Block had 60 growing fields and five supported POD Fields. In the event, all the reservoir distribution of oil and gas reserves is located in 1 (one) regency/city, the percentage allocation of participating shares of the province or the regency/ city shall be set at 50% (fifty percent) each, so the result share proportion for Bekasi Regency from 1.7% to 0% or no participating share allocation for Bekasi Regency due to no producing/POD field available. Generally, the new share calculation result for regencies to be a decline, except for West Java Province (Table 11). Indramayu Regency from 4.71% to 124%, Karawang Regency from 8.24% to 4.78%, Subang from 2.93% to 0.31%, West Java Province from 69.8% to 80.67%, and DKI Province from 13.04% to be 13.00%.

The reserves data agree to use the SKKMigas formula for the POD proposal, i.e., 90% PI + 50% P2. Especially for the share distribution between West Java and DKI Jakarta Province, they are agreed to apply regulation from Permen ESDM No. 37/2016 by calculating only reservoir distribution of producing field and Approved POD Field. The calculation result of this mechanism where the province had 100% share allocation is West Java Province at about 79.71% (including four producing regencies) and DKI Jakarta Province at 20.29% (Table 12). Because the four producing regencies of the West Java Province agreed to use the weighting method with the total share portion, 17.58%, the West Java Province share allocation becomes 62.13%.

Table 11. Share Proportion Distribution of B Block uses Permen No.37/2016 Method

PI SHARE DISTRIBUTION BASED ON PRODUCING & POD FIELD (Permen No. 37/2016)		
NO.	PROV / KAB	% PROPORSI SAHAM
1	DKI. JAKARTA	13.00%
2	WEST JAVA	80.67%
3	INDRAMAYU	1.24%
4	KARAWANG	4.78%
5	SUBANG	0.31%
	TOTAL	100.00%

Table 12. The share distribution result between West Java and DKI Jakarta Province uses Permen No. 37/20016 Method

	PROV. JABAR	PROV. DKI JAKARTA	TOTAL
TOTAL RESERVES (90%PI +50%P2) MMBOE			
PERCENTAGE, %	79.71%	20.29%	100.00%
PERCENTAGE WITHIN PI 10%	7.97%	2.03%	10.00%

CONCLUSION

The share distribution of PI 10% between the province and regency/city shall be satisfied all the parties. Even though the regulation from the government to arrange shared distribution of PI 10% has been issued, the conflicts remain, the negotiation process is still needed to solve the conflict. Some methods of PI share distribution which can be acceptable for all parties can be used and shall be agreed upon in advance. Hence the result of the approved method shall be accepted by all of the parties. The rules of the Permen ESDM No. 37/2016 need to be considered again. Allocation of participating shares shall not only be based on reservoir distribution and the reserves of producing fields. However, for the other oil and gas potential, the production facilities asset that extent in the producing region should be considered because direct impact of the oil and gas activity can occur in this area. The case of the A and B Block showed that several methods of share distribution of PI 10% could be applied. The conflict between the producing province and the regency/city can be appropriately resolved, so transferring the PI 10% share to the regions can be realized quickly.

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