

**MINISTRY OF AGRICULTURE
THE REPUBLIC OF INDONESIA**

**THE STUDY ON
DISTRIBUTION MECHANISM REFORM
THROUGH DEVELOPMENT OF
WHOLESALE MARKET (IMPROVING
OF POST-HARVEST HANDLING AND
MARKETING FACILITIES)
IN INDONESIA
(AGRICULTURE)**

**FINAL REPORT
ANNEX**

JANUARY 2012

JAPAN INTERNATIONAL COOPERATION AGENCY

SYSTEM SCIENCE CONSULTANTS INC.

NIPPON KOEI CO., LTD.

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The Study on
Distribution Mechanism Reform through Development of Wholesale Market
(Improving of Post-Harvest Handling and Marketing Facilities)
in Indonesia
(Agriculture)

Final Report
Annex

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Annex-1 Results of Agricultural Marketing System Survey

1.1 Origin and Destination Survey from Sumatra to Jawa

1.1.1 General

(1) Objectives of the Survey

To identify the Origin and Destination of agro-products from Sumatra to Jawa at Bakauheni Port as well as quantity and items.

(2) Survey Areas

Survey point is the Bakauheni Port.

(3) Target Crops

Targeted agro-products are coming from Sumatra to Jawa, and all fruits, vegetables and estate crops.

(4) Interviewee

Interviewees are all Truck drivers to transport at Bakauheni Port from Sumatra to Jawa during 72 hours survey term.

(5) Survey Period

The survey should be conducted for 72 hours (3 days) continuously;

- a) at the end of May 2011 (from 09:00 am May 23 to 09:00 am May 26), and
- b) late October, 2011 (from 09:00 am October 27 to 09:00 am October 30)

(6) Scope of the work

To record the data of: i) Date and Time; ii) Maximum Tonnage of the interviewees' trucks on questionnaires and photos; iii) Plate number of the trucks on questionnaires and photos. The questions to ask drivers are following;

- i. Ask every truck driver "Is your cargo vegetables or fruits?"
- ii. If the answer is "No", question is finished.
- iii. If the answer is "Yes", ask "What items do you carry?"
- iv. "Where are you coming from and going to in cities or districts of provinces?"
- v. "How packed the agro products are?"
- vi. "Are there in refrigerators?"
- vii. "Which route do you take to Bakauheni Port, west or east?"

The data were collected through the interviews with truck drivers and photos of tonnage label and plate number of the trucks carrying fruits, vegetables, and estate commodities. The tonnage of cargo is estimated from the tonnage label, although many trucks carry over the regulation of the plates.

1.1.2 Survey Result in May 2011

The total number of trucks is 1,232 that operate for 3 days. This means 410.7 per day.

The volume of 1,444 tons of fruits, vegetables and estate crops are transacted per day from Sumatra to Jawa at the Bakau Heni Ferry Port.

Their volume is 76.8% for fruits, 14.8% for estate crops, and 8.3% for vegetables. Among the transaction of fruits, banana comes first, 52.0%, 577 tons per day. The survey was carried out during the season of durian, so this fruit takes the second place, 14.3%. Watermelon, pineapple and papaya follow. The transaction of pineapples, which Lampung produce in the largest volume in Indonesia, is smaller than expected.

The 76.2% of them, i.e. 1,101 tons are from Lampung and 11.4% are from South Sumatra as well as 6.0% are from West Sumatra. The volume in North Sumatra, a region that is famous for the production of oranges, amounts to only 2.0%.

Among the transaction from Lampung, 50.0% go to DKI Jakarta, 25.7% to West Jawa, and 21.1% to Banten. The destination concerns not only DKI Jakarta, but also the area of West Jawa Island.

The Lampung province takes an advantage in being close to Jawa Island for operating as the base to supply especially fruits. On the other hand, North Sumatra produces fruits and vegetables in large quantities that could be exported mainly to the Malay Peninsula and overseas, as well as could be consumed inside Sumatra.

The top destinations are DKI Jakarta, 52.9%, 762 tons. West Jawa and Banten follow with 24.5% and 19.4%. Those 3 provinces account for 96.6% of the transaction.

The 82.0% of cargo are “not graded” and “not packaged”. 10.1% is just contained in large plastic net bags by the producers without grading. Only 6.6% of them are graded to be put in cardboard and wooden boxes. The percentage of “graded” is slightly higher in case the destination is “to DKI Jakarta” (9.1%), but it is not so much high as we expected. 90% of products is not graded and packed at the Bakau Heni Port and graded in Kramat Jati, or other wholesale markets. A greater profit would be possible for wholesalers to add value to their goods.

The 78.4% of fruits and 45.1% of vegetables are from Lampung, and the 82.1% of estate crops are from Lampung.

Actually, Lampung constitutes the consuming province of vegetables, but still provide vegetables to Jawa, including DKI Jakarta.

1) Items

The volume of 76.8% is fruits. The amount is 1,110 tons per day. Meanwhile 14.8% is related to estate crops. The amount of them is 214 tons per day. 8.3% is vegetables. The amount of it is 120 tons.

Among the fruits, banana holds the first position which amounts to 52.0%, i.e. 577 tons per day. The second largest volume is durian for 14.3%, i.e. 159 tons. Watermelon takes the third position, with 8.9%, 159 tons. The transaction volume of pineapple is 4th with 6.2%, 68 tons. Papaya amounts to 4.1% and 46 tons per day.

Among the vegetables, red onion, cabbage, jengkol, tomato and potato account for 22.2%, 15.4%, 13.1%, 10.7% and 8.8%, respectively.

Among the estate crops, coconut and coffee comprise 83.7% and 15.2%, respectively, and cocoa accounts for only 1.1%

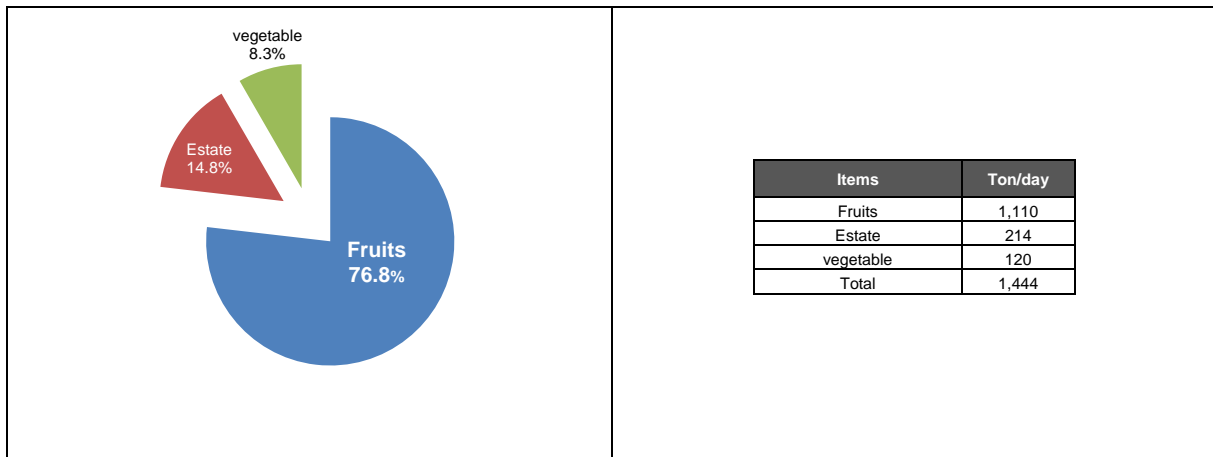


Figure Categories of Items of Transaction at Bakau Heni Port

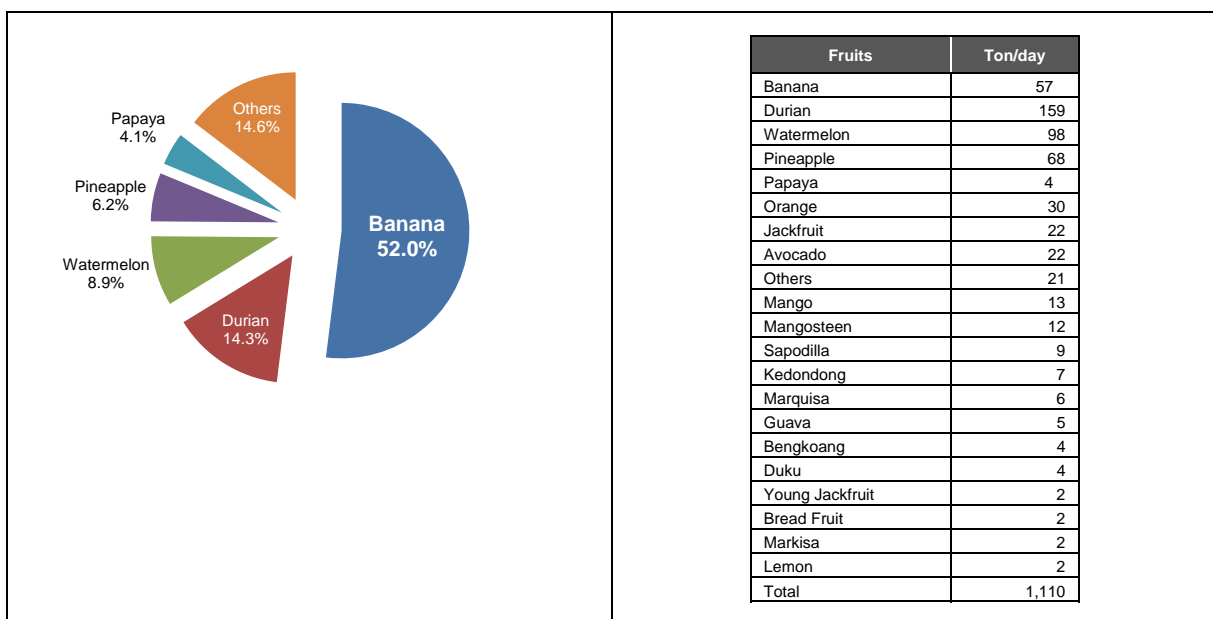


Figure Items in Fruits of Transaction at Bakau Heni Port

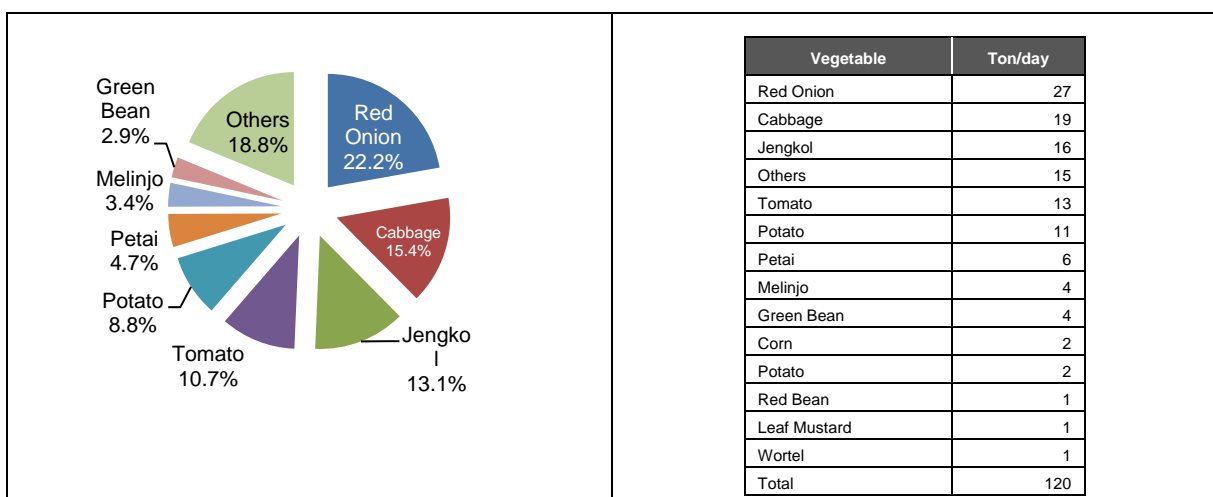


Figure Items in Vegetables of Transaction at Bakau Heni Port

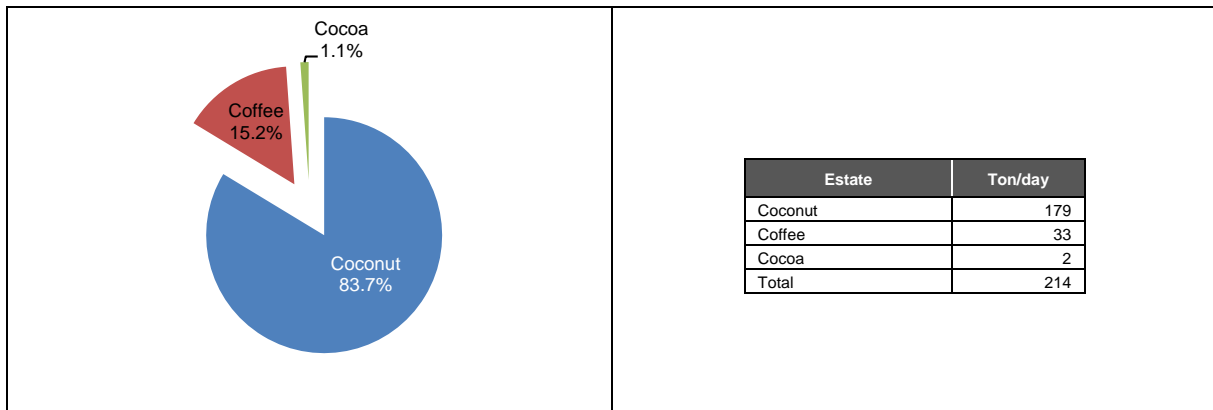


Figure Items in Estate Crops of Transaction at Bakau Heni Port

2) Origin

The origin of 76.2% of all transaction concerns Lampung, for 1.101 tons per day, 11.4% concerns South Sumatra, for 164 tons and 6.0% concerns West Sumatra, for 87 tons.

The origin of 78.4% of fruits comes from Lampung, 12.1% from South Sumatra and 4.6% from West Sumatra.

Lampung also provides 94.5% of banana, 95.9% of papaya, and 92.3% of watermelon to Jawa. Although pineapple is the main crop in Lampung, the share to Jawa according to our O/D survey is only 7.9%.

The origin of vegetables is more diversified than fruits. The origin of vegetables is 45.7%, 25.2% for West Sumatra, 12.4% for Jambi, 7.6% for South Sumatra, and 5.8% for Kepulauan Riau and 3.4% for others.

The origin of 82.1% of estate crops concerns Lampung, 8.9% for south Sumatra, 5.0% for Bengkulu, 2.8% for West Sumatra and 1.2% for Jambi.

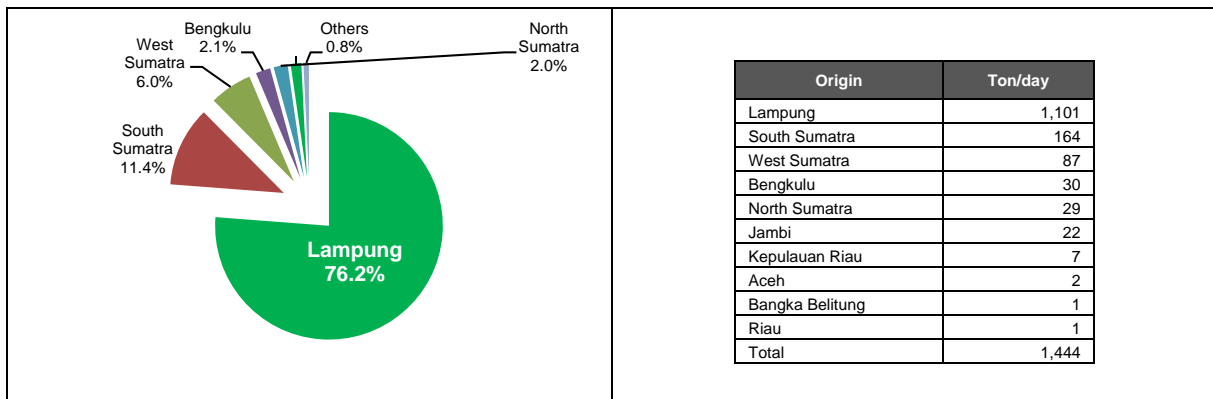


Figure Origin of All Items at Bakau Heni Port

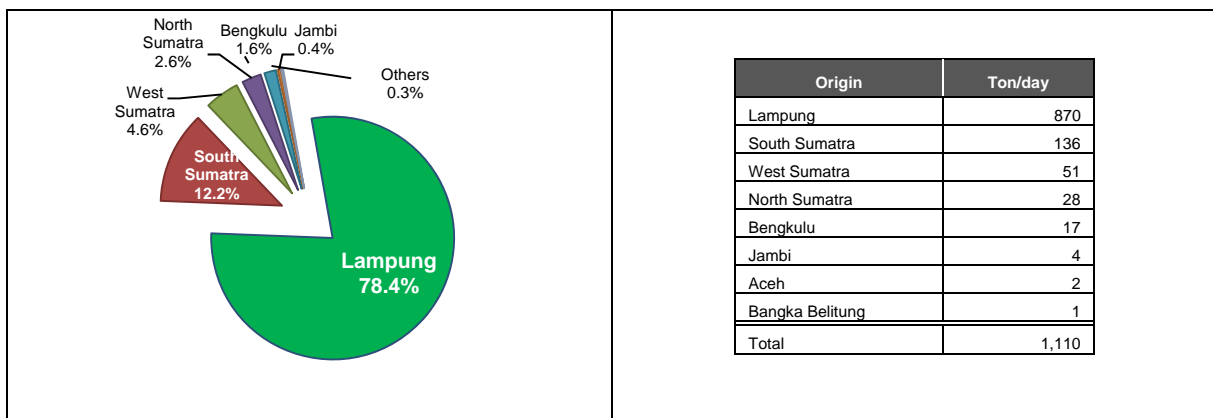


Figure Origin of Fruits at Bakau Heni Port

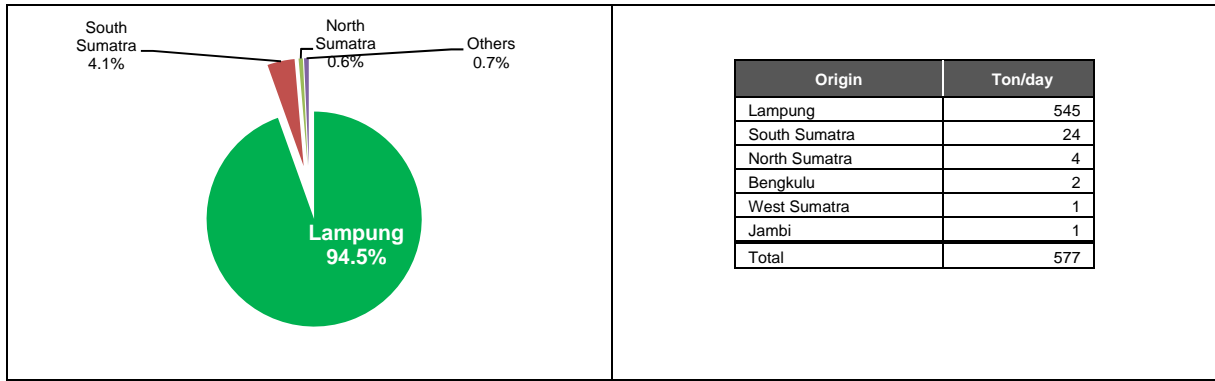


Figure Origin of Banana at Bakau Heni Port

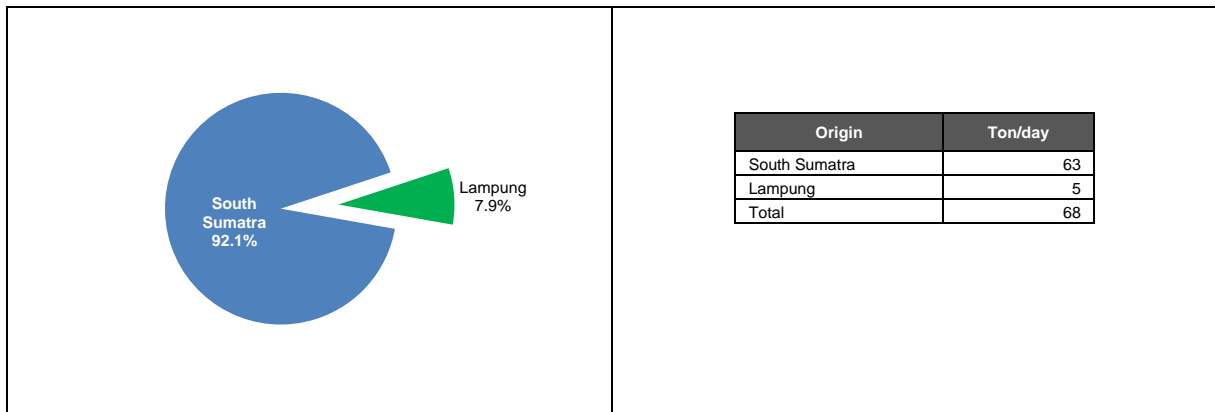


Figure Origin of Pineapple at Bakau Heni Port

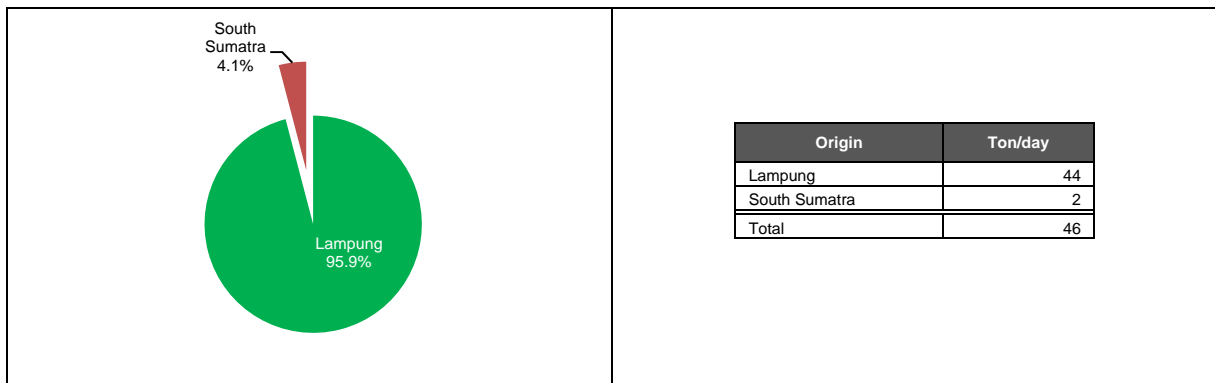


Figure Origin of Papaya at Bakau Heni Port

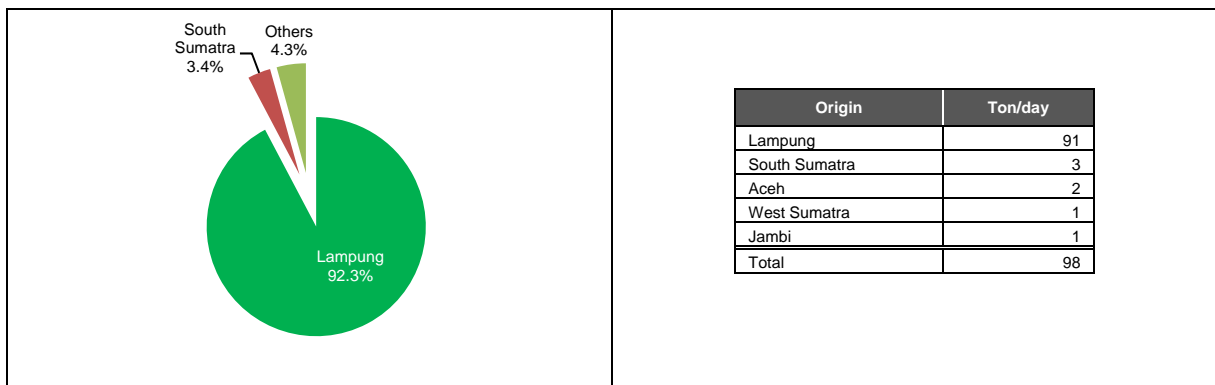


Figure Origin of Watermelon at Bakau Heni Port

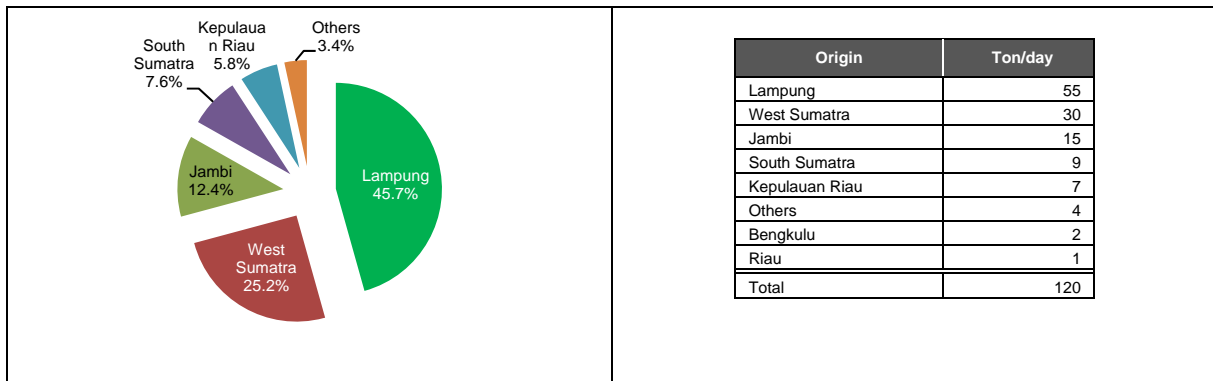


Figure Origin of Vegetables at Bakau Heni Port

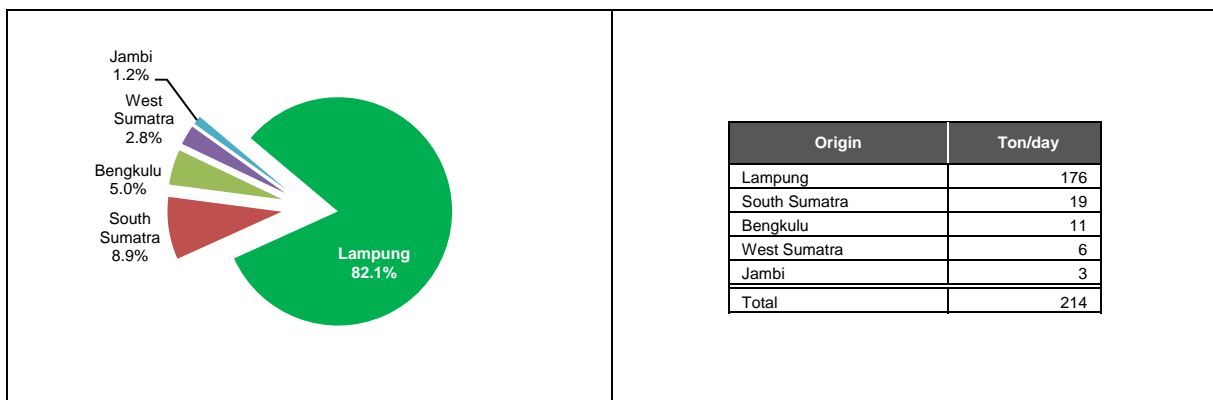


Figure Origin of Estate Crops at Bakau Heni Port

3) Destination

The volume of 52.8% of all transactions, i.e. 762 tons per day, goes to DKI Jakarta, 24.5% (353t) to West Jawa and 19.4% (280t) to Banten. These top 3 amount to 97.0% of their share.

Regarding fruits, the volume of 52.9% goes to DKI Jakarta, 24.6% to West Jawa and 20.0% to Banten. 47.4% of bananas go to DKI Jakarta, 29.1% to West Jawa and 21.7% to Banten. The volume of 79.0% of pineapples goes to DKI Jakarta, 13.5% to Banten and 7.6% to West Jawa. The volume of 53.8% of papaya is destined to DKI Jakarta, 24.7% to West Jawa, and 21.5% to Banten. The volume of 72.9% of watermelons goes to DKI Jakarta, 17.4% to West Jawa and 8.1% to Banten.

Regarding vegetables the volume of 50.9% goes to DKI Jakarta, 21.0% to Banten and 17.8% to West Jawa.

Regarding estate crops, the volume of 53.2% goes to DKI Jakarta, 27.3% to West Jawa and 15.0% to Banten.

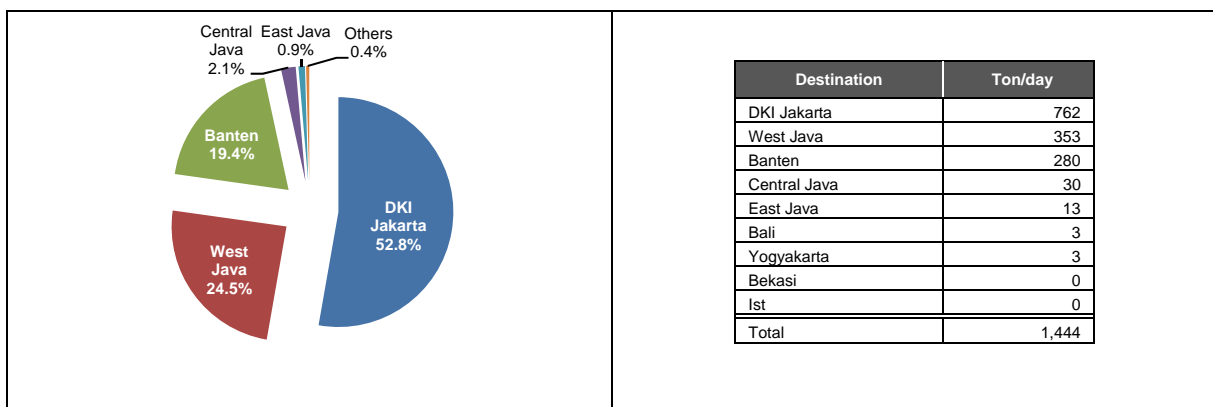


Figure Destination of all Items at Bakau Heni Port

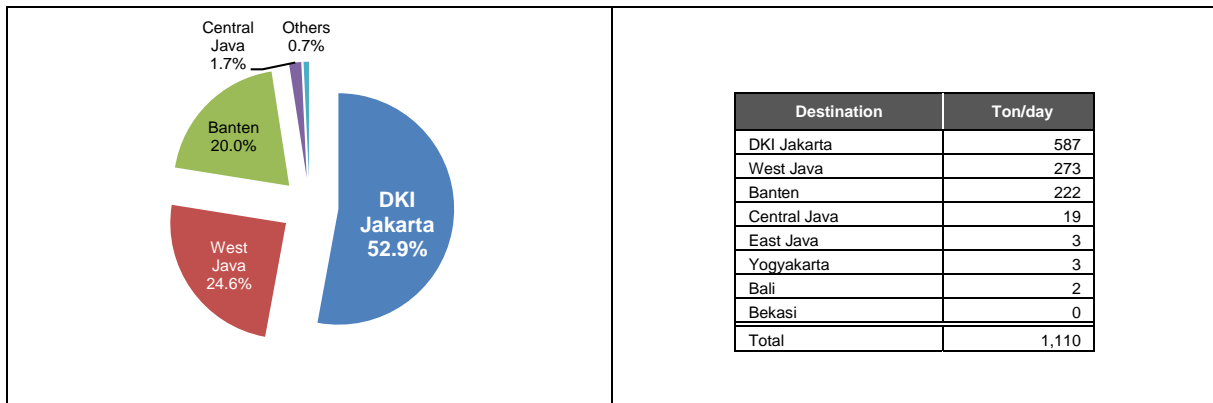


Figure Destination of Fruits at Bakau Heni Port

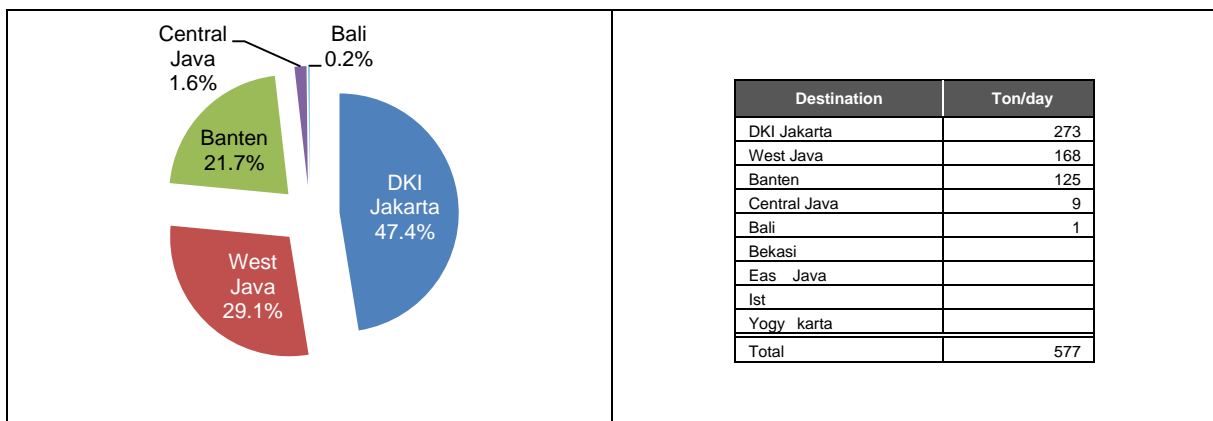


Figure Destination of Banana at Bakau Heni Port

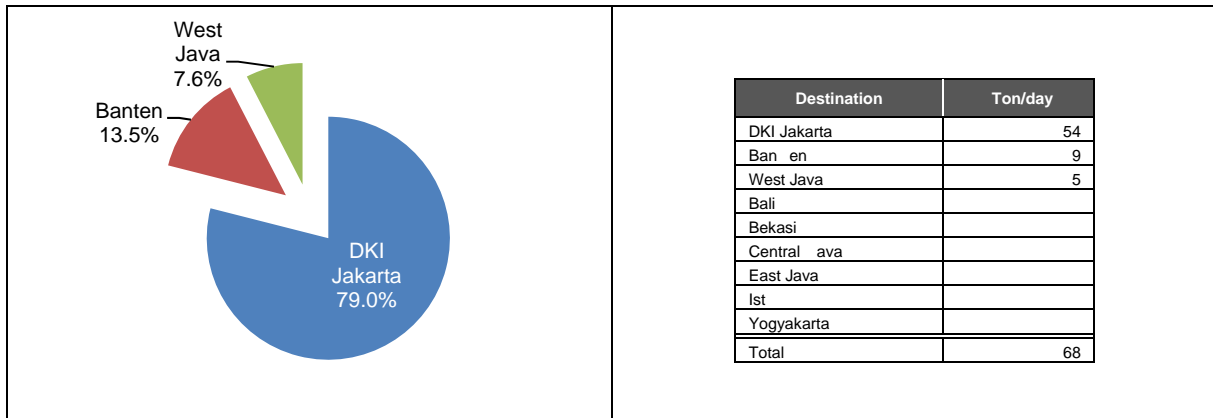


Figure Destination of Pineapple at Bakau Heni Port

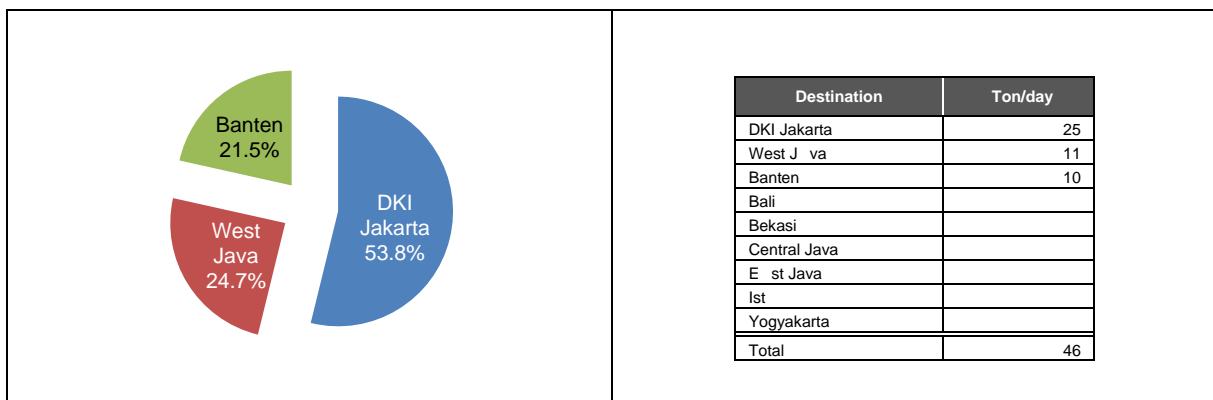


Figure Destination of Papaya at Bakau Heni Port

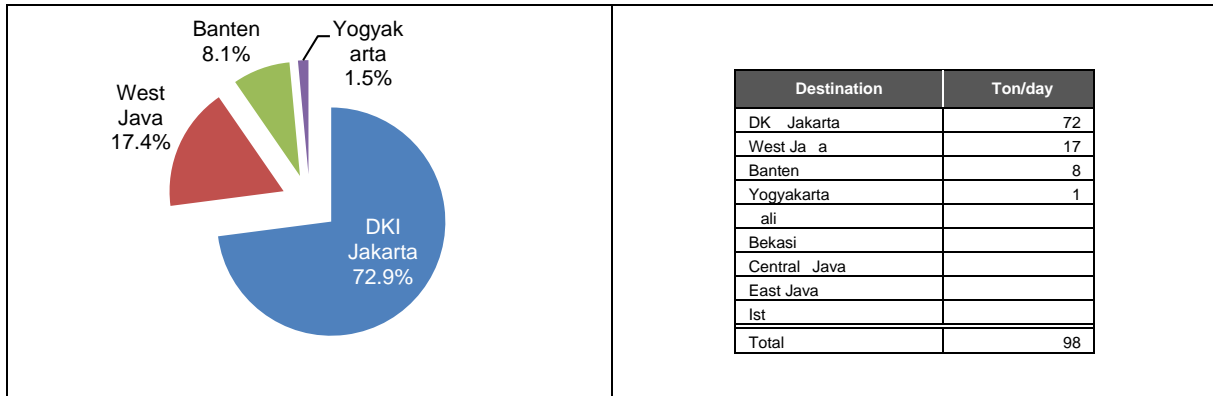


Figure Destination of Watermelon at Bakau Heni Port

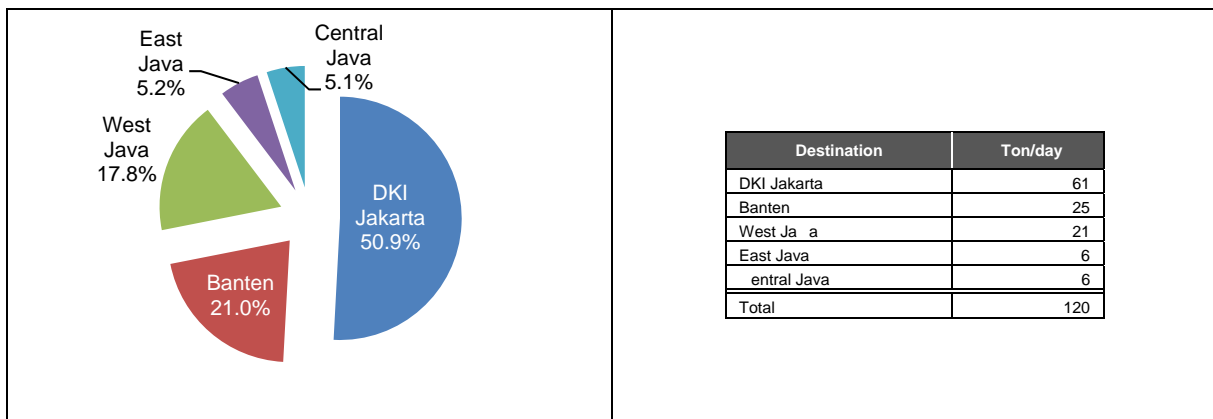


Figure Destination of Vegetables at Bakau Heni Port

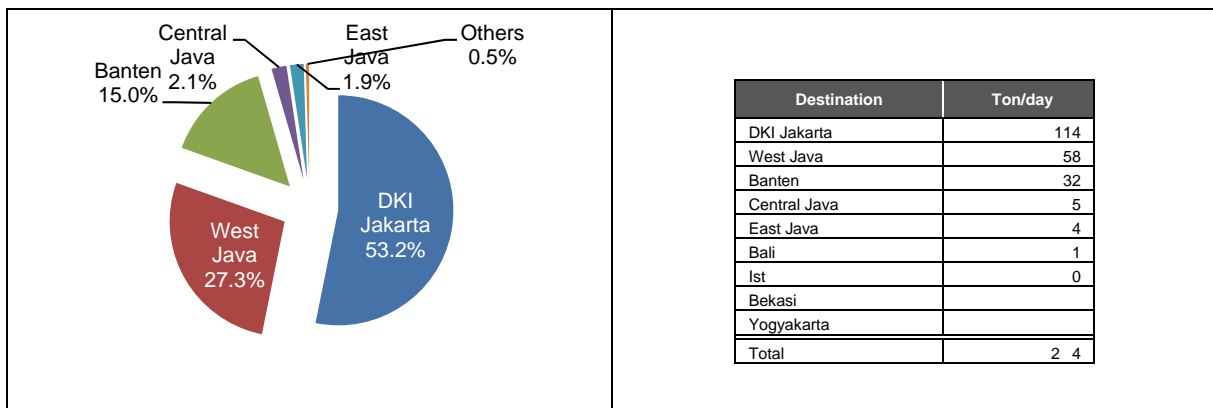


Figure Destination of Estate Crops at Bakau Heni Port

4) From Lampung

Fruits, estate crops and vegetables account for 79.0%, 16.0% and 5.0% of transaction from Lampung, respectively.

Among the fruits from Lampung, banana, durian, watermelon and papaya comprise 62.6%, 12.6%, 10.4% and 5.0%, respectively. Although pineapple constitutes the main product in Lampung, but there are only 5 tons per day according to the survey.

18.7% of vegetables are red onion and 18.5% are cabbage. The local vegetables are also shipped to Jawa from Lampung, such as jengkol (12.8%), petai (10.4%) and melinjo (7.4%).

Coconut accounts for 89.8% of estate crops, while coffee and cocoa account for 8.8% and only 1.4%, respectively.

The destinations from Lampung are mainly in direction of DKI Jakarta (50.0%), West Jawa (25.7%) and Banten (21.1%).

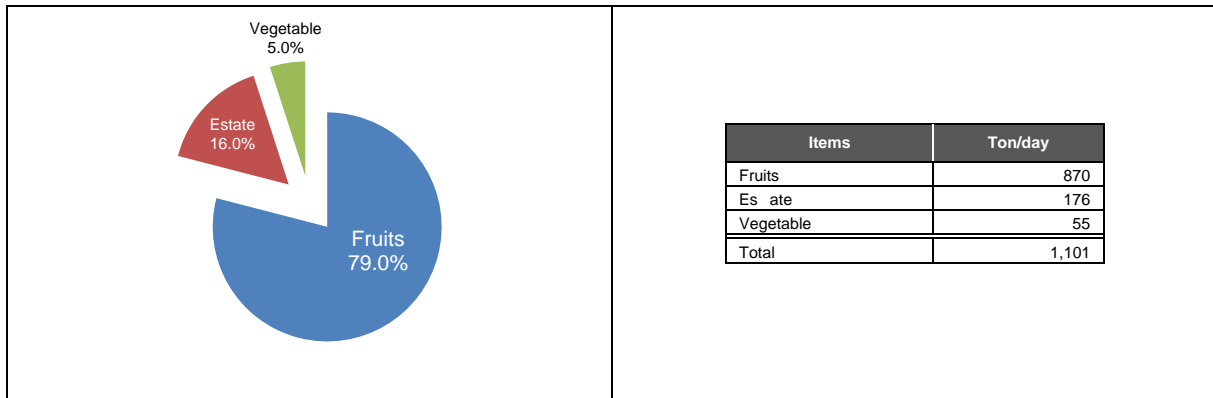


Figure All Items from Lampung at Bakau Heni Port

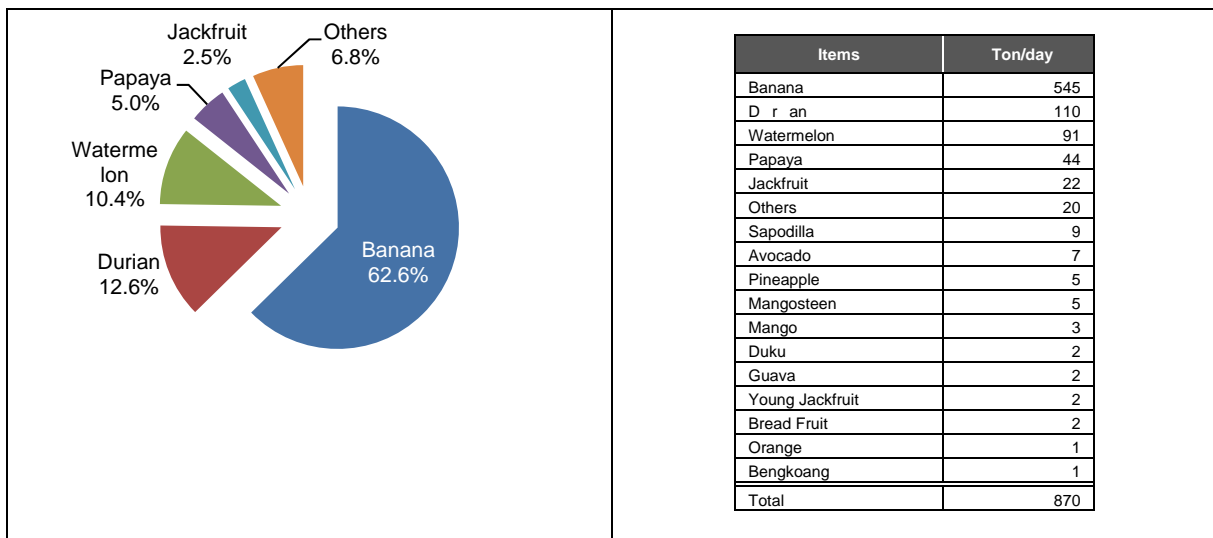


Figure Fruits from Lampung at Bakau Heni Port

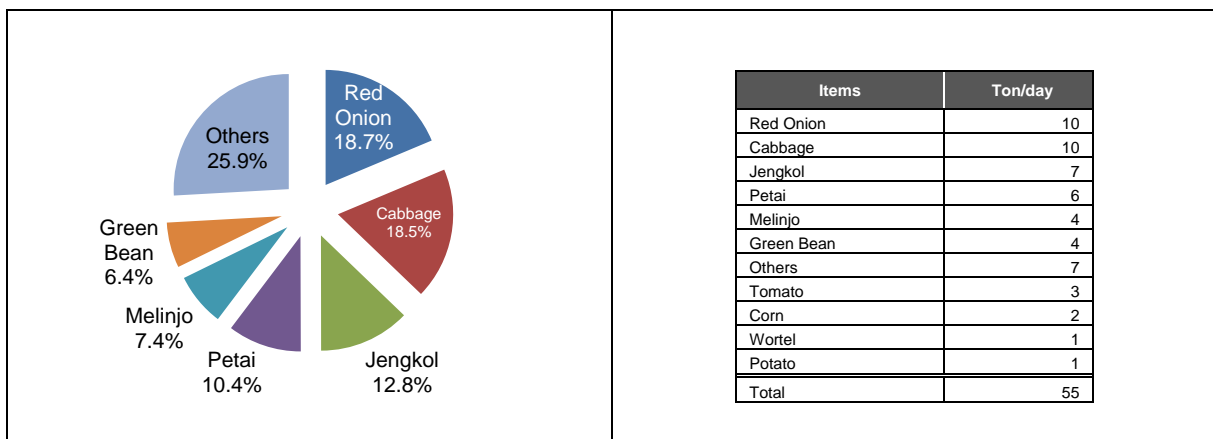


Figure Vegetables from Lampung at Bakau Heni Port

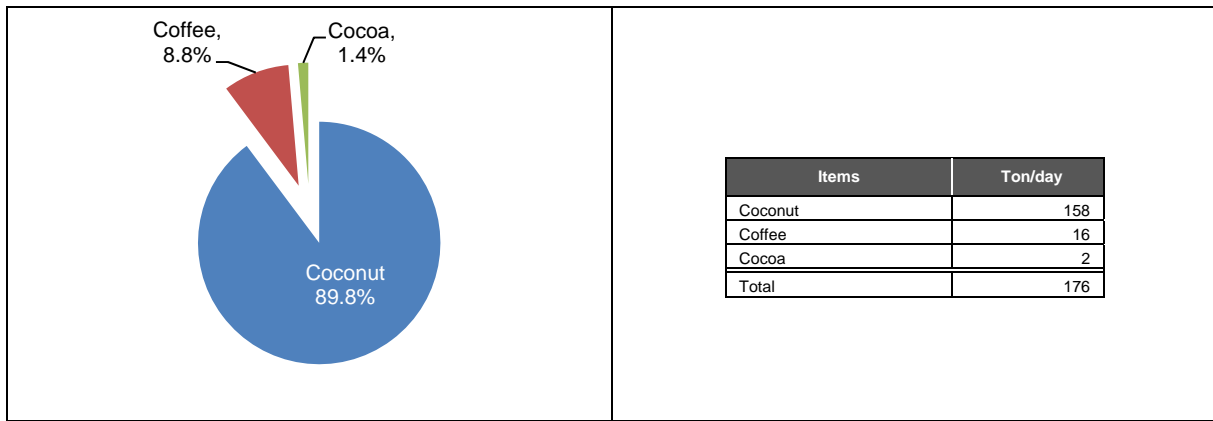


Figure Estate Crops from Lampung at Bakau Heni Port

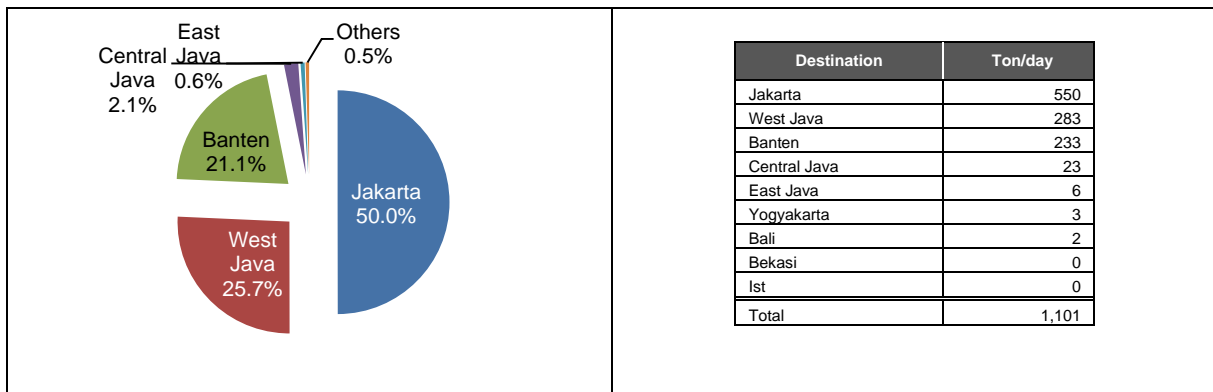


Figure Destinations from Lampung at Bakau Heni Port

5) To DKI Jakarta

The volume of 77.0% of the transaction to DKI Jakarta concerns fruits, 14.9% estate crops and 8.0% vegetables.

Among the fruits to DKI Jakarta, banana, watermelon, durian, pineapple and papaya comprise 46.6%, 12.1%, 11.0%, 9.2% and 4.2%, respectively, despite the fact that it was the season of durian during the survey.

Regarding 18.7% of vegetables to DKI Jakarta, red onion, potato, cabbage, tomato and jenkol account for 18.1%, 14.8%, 12.5% and 11.6%, respectively.

Among the estate crops to DKI Jakarta, coconut and coffee account for 90.0% and 10.0%, respectively.

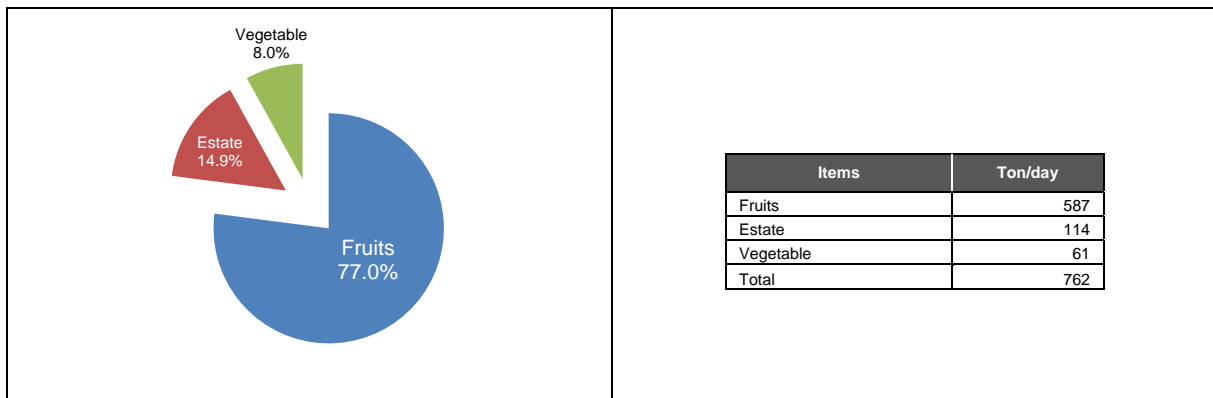


Figure All Items to Jakarta at Bakau Heni Port

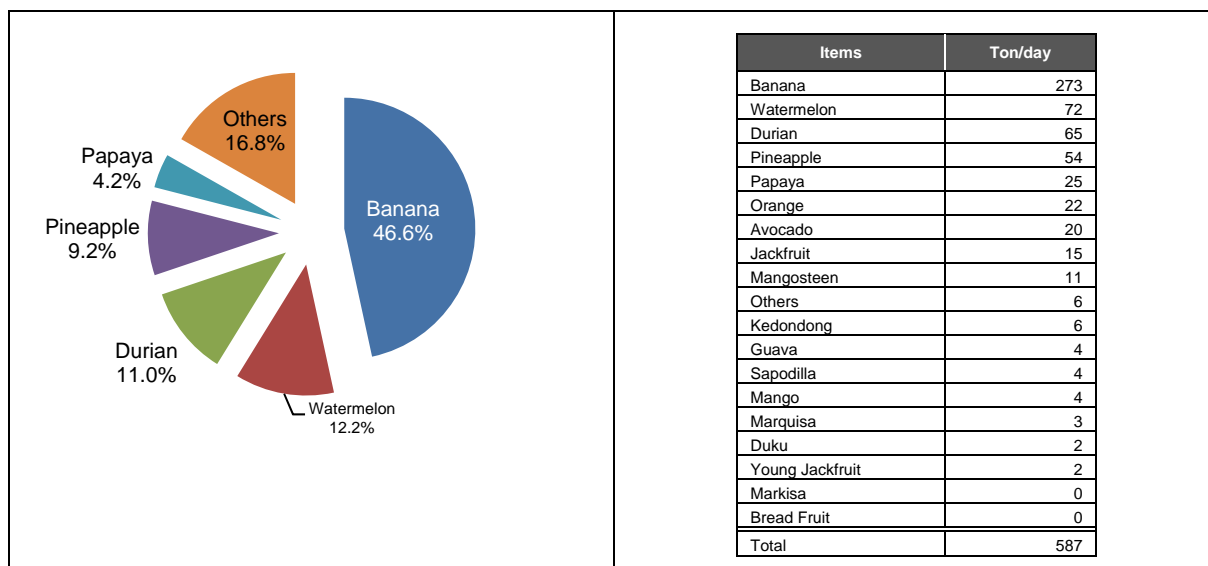


Figure Fruits to Jakarta at Bakau Heni Port

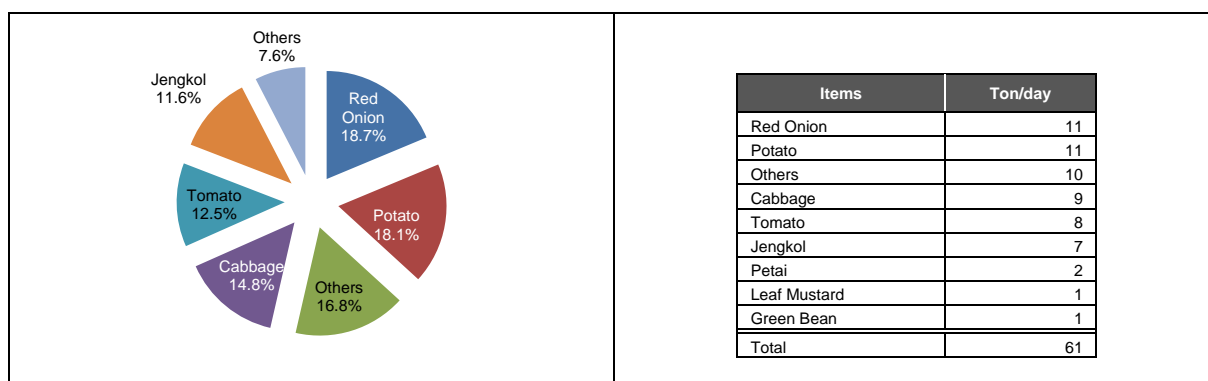


Figure Vegetables to Jakarta at Bakau Heni Port

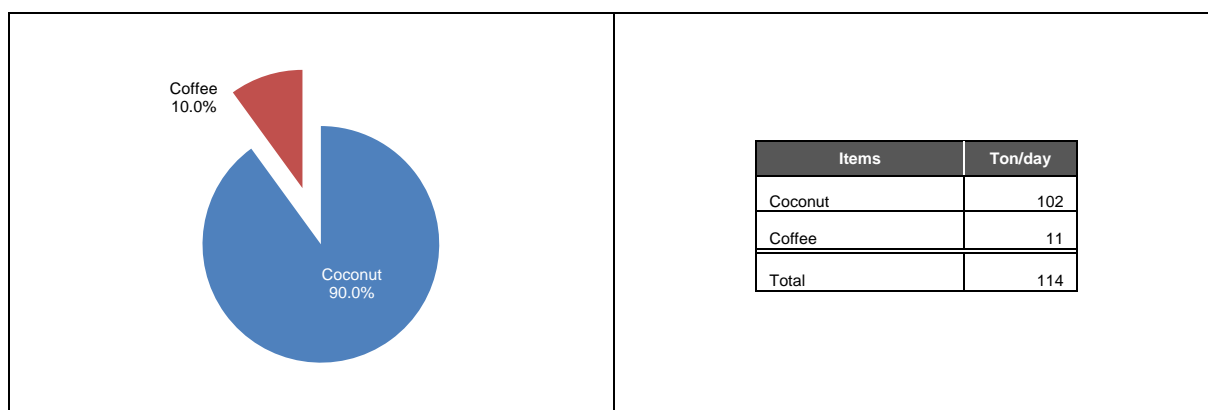


Figure Estate Crops to Jakarta at Bakau Heni Port

6) From Lampung to DKI Jakarta

The main transaction from Lampung to DKI Jakarta is fruits (78.8%). The volume of 17.2% and 4.0% are for the estate crops and vegetable, respectively.

Among the fruits from Lampung to DKI Jakarta, banana, watermelon, durian, papaya and jackfruits comprise 60.0%, 15.1%, 8.2%, 5.2% and 3.5%, respectively.

Vegetables from Lampung to DKI Jakarta are mainly cabbage (20.4%) and jengkol (19.5%).

The volume of 94.8% of estate crops from Lampung to DKI Jakarta is coconut, while 5.2% is coffee.

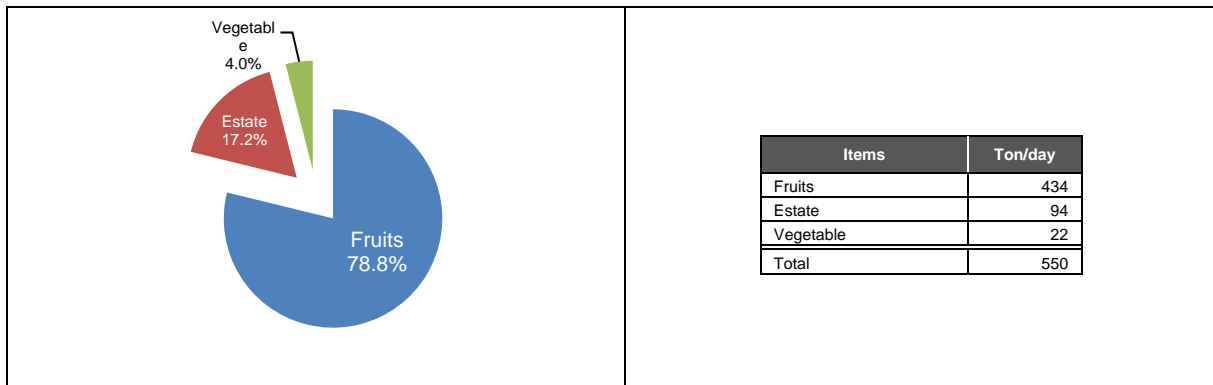


Figure Categories of Products from Lampung to Jakarta at Bakau Heni Port

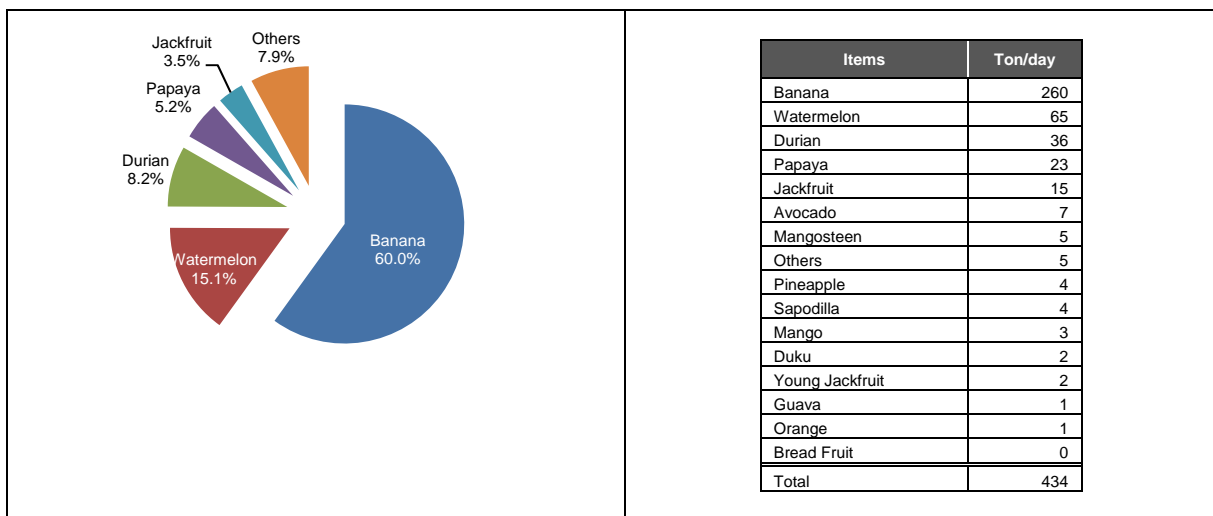


Figure Fruits from Lampung to Jakarta at Bakau Heni Port

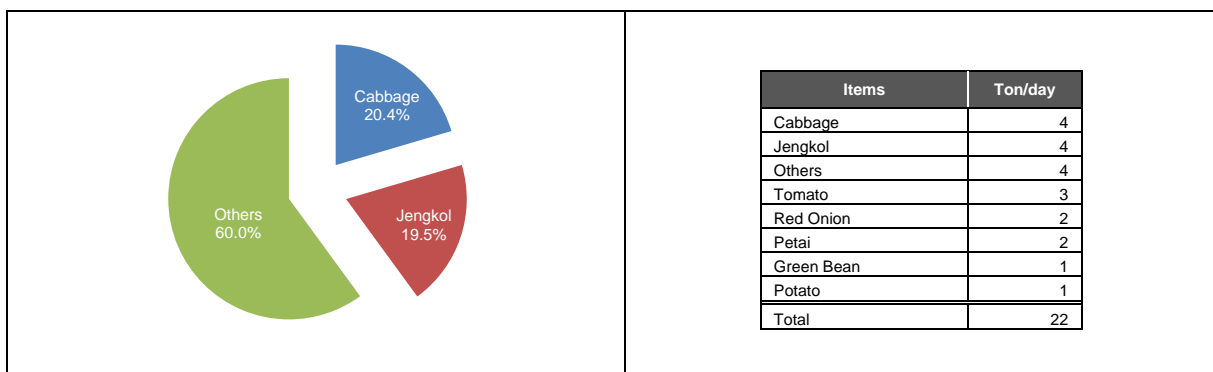


Figure Vegetables from Lampung to Jakarta at Bakau Heni Port

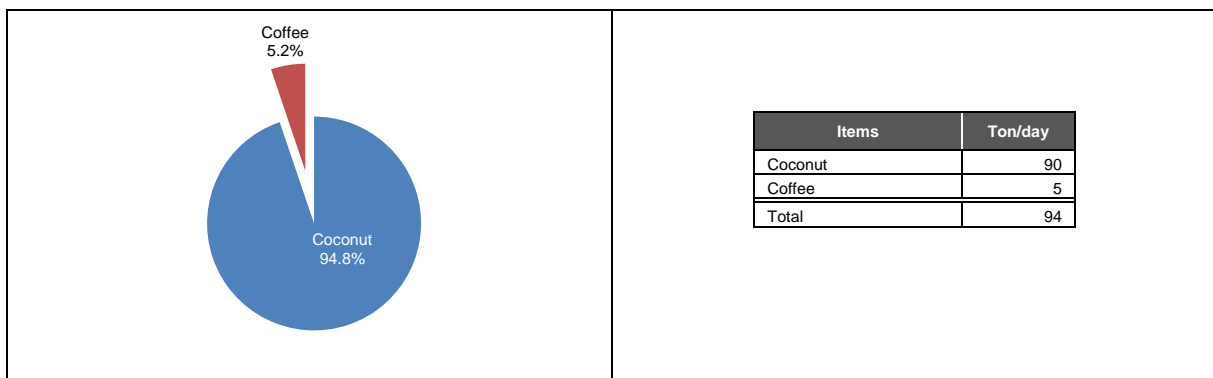


Figure Estate Crops from Lampung to Jakarta at Bakau Heni Port

7) Grading and Packaging

The volume of 82.0% of all transactions at Bakau Heni Port from Sumatra to Jawa are not graded nor packaged and just loaded on trucks. The volume of 10.1% is packed in plastic nets, but not graded. A total of 93.3% is not graded. Only 6.7% is graded and packaged in cardboard and wooden boxes. Vegetables (7.2%) are a little more graded and packaged than fruits (10.3%). “From Lampung” only 3.0% of all transactions are graded and packaged, but “to DKI Jakarta”, a total of 8.5% is graded and packaged. The volume of 9.6% of fruits and 13.6% of vegetables is graded and packaged. Transactions to DKI Jakarta are subjected to more grading and packaging than others, but the traders in Lampung are not well adapted to this trend.

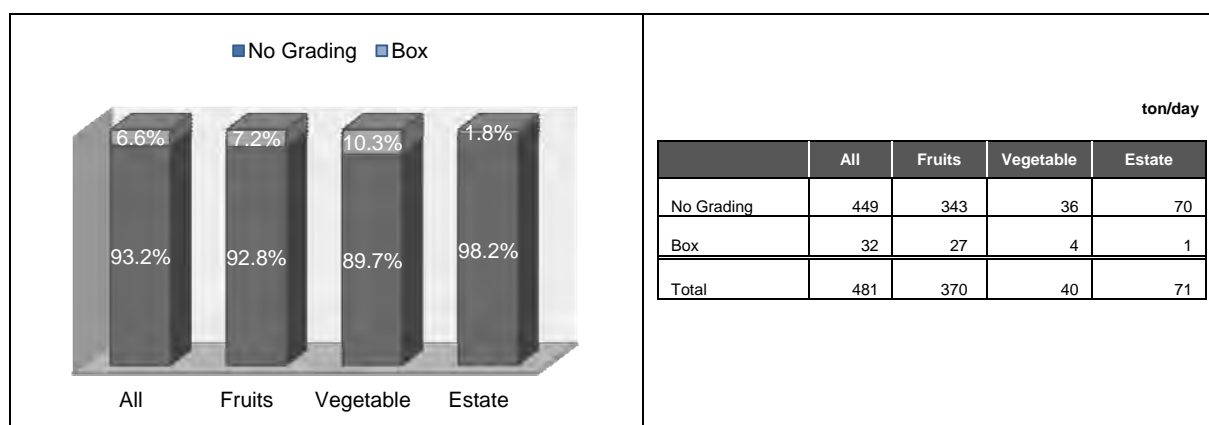


Figure Grading and Packaging of All Items at Bakau Heni Port

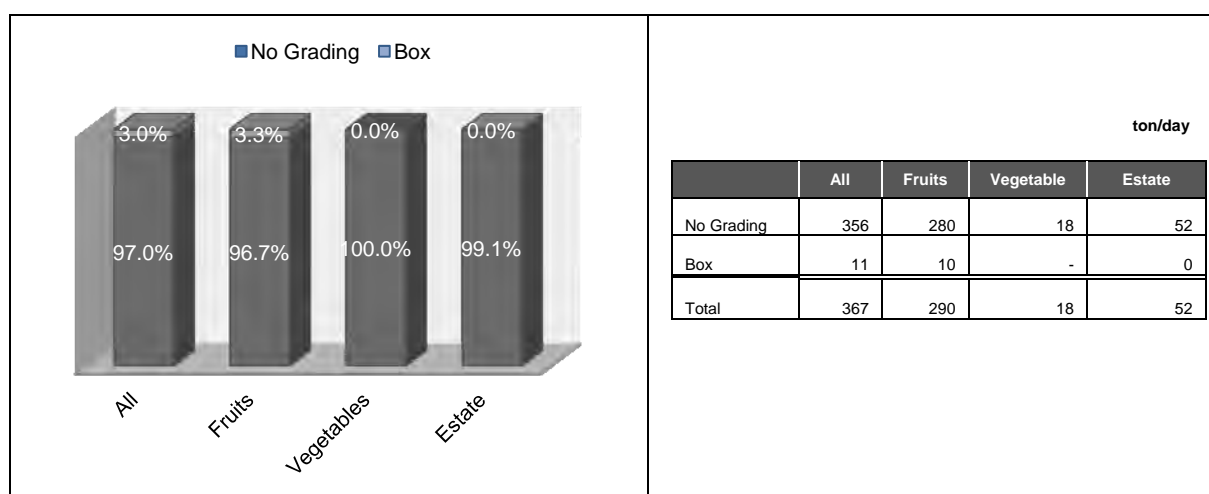


Figure Grading and Packaging of Fruits from Lampung at Bakau Heni Port

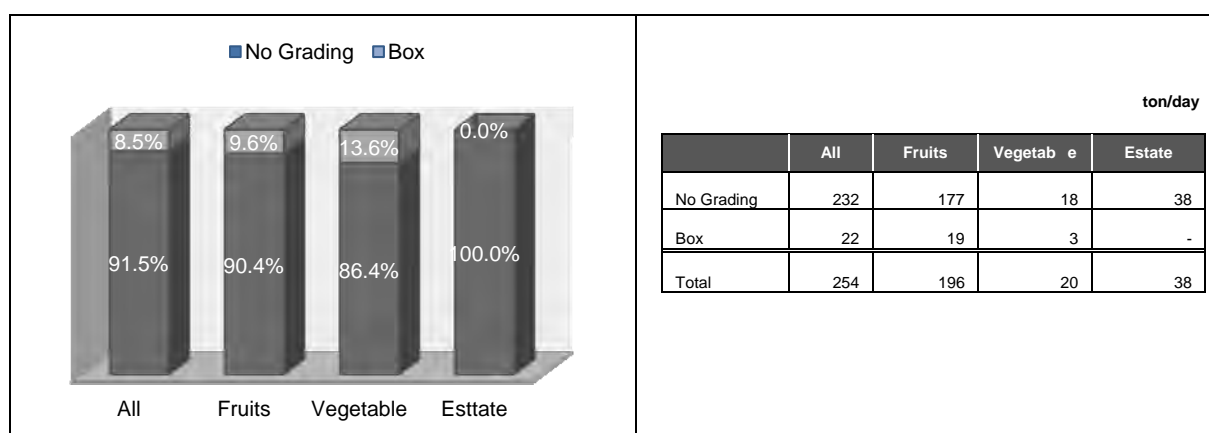


Figure Grading and Packaging of Fruits to Jakarta at Bakau Heni Port

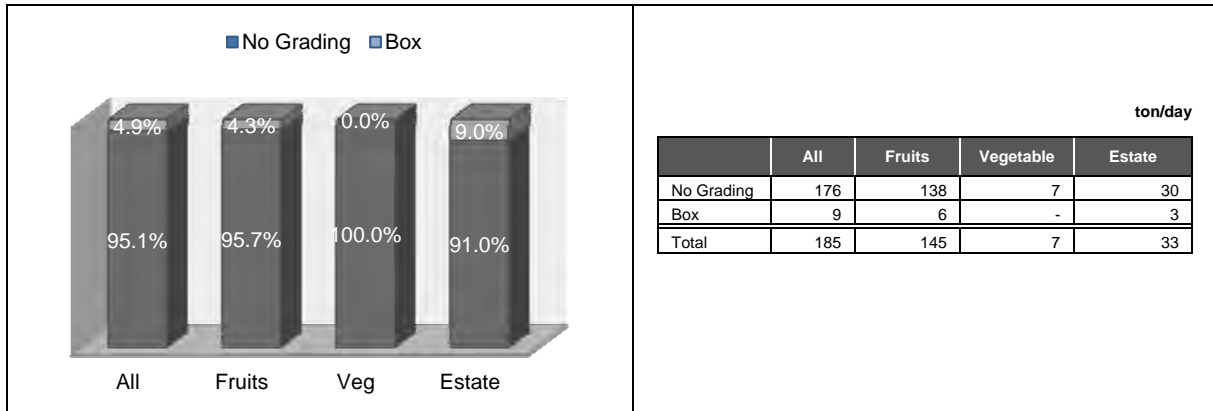


Figure Grading and Packaging of Fruits from Lampung to Jakarta at Bakau Heni Port

8) Routes

There are two main routes to the Bakau Heni Ferry Port. One is west side, via Bandar Lampung and the other is east route through Gunung Sugih and Maringgai. A number of 67.2% of trucks were coming by west route, via Bandar Lampung and 32.8% were coming through Gunung Sugih and Maringgai.

(Refer to Appendix 5-14)

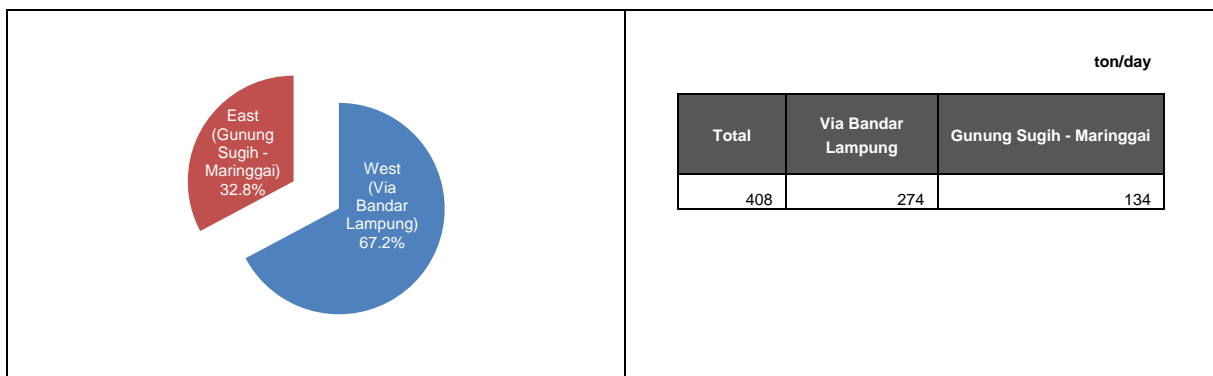


Figure Routes to Bakau Heni Port

9) Time

Most of the transactions of horticultural products and estate crops are carried out during the night. A total of 80.8% of cargo passed through between 6:00 pm to 8:00 am for 10 hours.

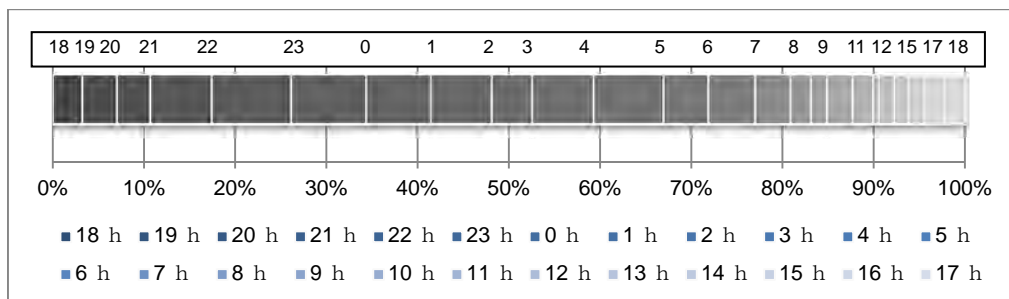


Figure Hourly Transaction at Bakau Heni Port

1.1.3 Survey Result in October 2011

Total number of trucks is 1,054 or 351.3 trucks per day unit that transacted 1,185.26 Ton products consisting of fruits (66% or 777 Ton), vegetables (12 % or 140 Ton) and estate crops (22% or 267 Ton) are transacted from Sumatra to Java at Bakauheni Ferry Port. The most transaction is Banana (47.0%) or 364 tons per day, and the second is watermelon (22%), followed by orange, Papaya and pineapple.

Most of the origin of all transaction come from Lampung (80% or 946 tons) per day, then South Sumatra (8% or 91 tons) and North Sumatra (7% or 83 tons)

Most of the transaction to DKI Jakarta is fruits (68%), then estate crops (25%) and vegetables (7%). Most of the fruits transacted to DKI Jakarta is banana (39%), then watermelon (25%), orange (11%), pineapple (8%) and papaya (5%), durian was not in harvest season at the survey.

About 84% of all transaction at Bakauheni Port from Sumatra to Java are not graded nor packaged and just loaded on trucks. 16% of them are packed in the woodenbox, basket, carton and sack

There are two main routes to Bakauheni Ferry Port. One is west side, via Bandar Lampung (Trans Sumatra Road) and the other is east route through Gunung Sugih and Maringgai. 52% of trucks were coming by west route, via Bandar Lampung and 48% were coming through Gunung Sugih and Maringgai.

1) Items

Total number of trucks is 1,054 or 351.3 trucks per day unit that transacted 1,185.26 Ton products consisting of fruits (66% or 777 Ton), vegetables (12 % or 140 Ton) and estate crops (22% or 267 Ton) are transacted from Sumatra to Java at Bakauheni Ferry Port, see Figure 1.

Most of fruits transacted in Bakauheni is Banana (47%) or 364 tons per day, and the second is watermelon (22%), followed by orange, Papaya and pineapple, see Figure 2.

Most of vegetables transacted in Bakauheni is jengkol (34%), then cassava (33%), young Jackfruit (7 %) and longbean (5%). The other vegetables but in small numbers are Petai, Melinjo, kencur, sweet potatoes, peanuts , potato and corn, see Figure 3.

The estate crops transacted in Bakauheni is Coconut (100%), see Figure 4..

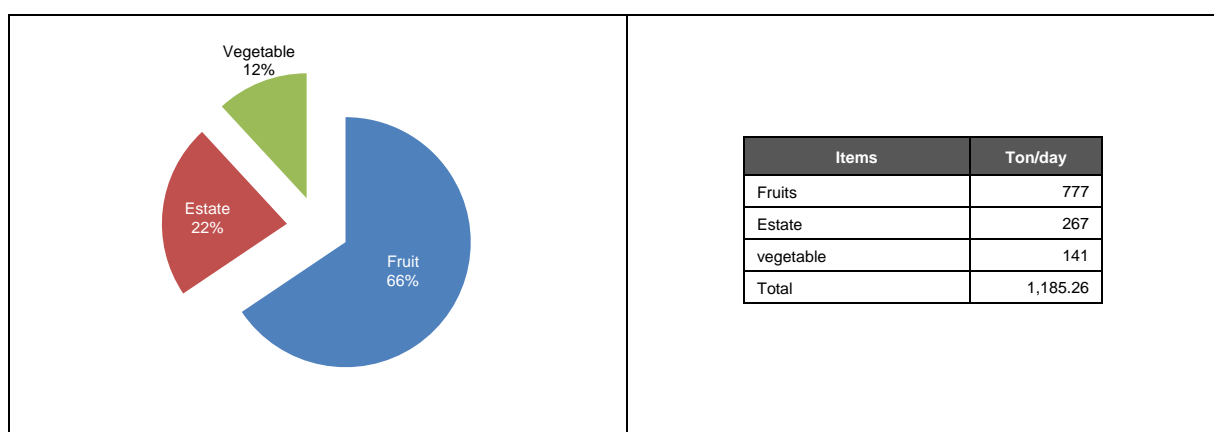


Figure 1. Categories of Items of Transaction at Bakauheni Port

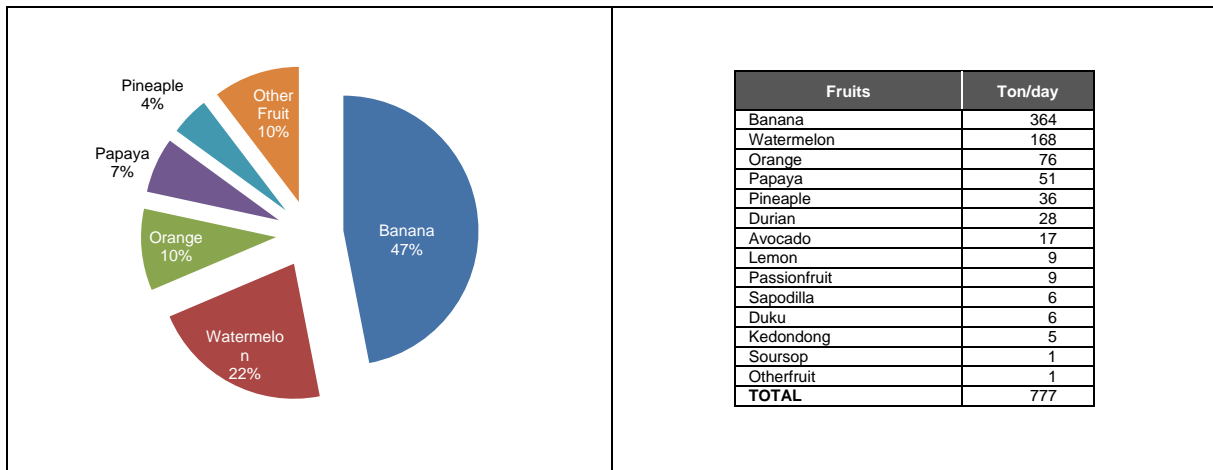


Figure 2. Items in Fruits of Transaction at Bakauheni Port

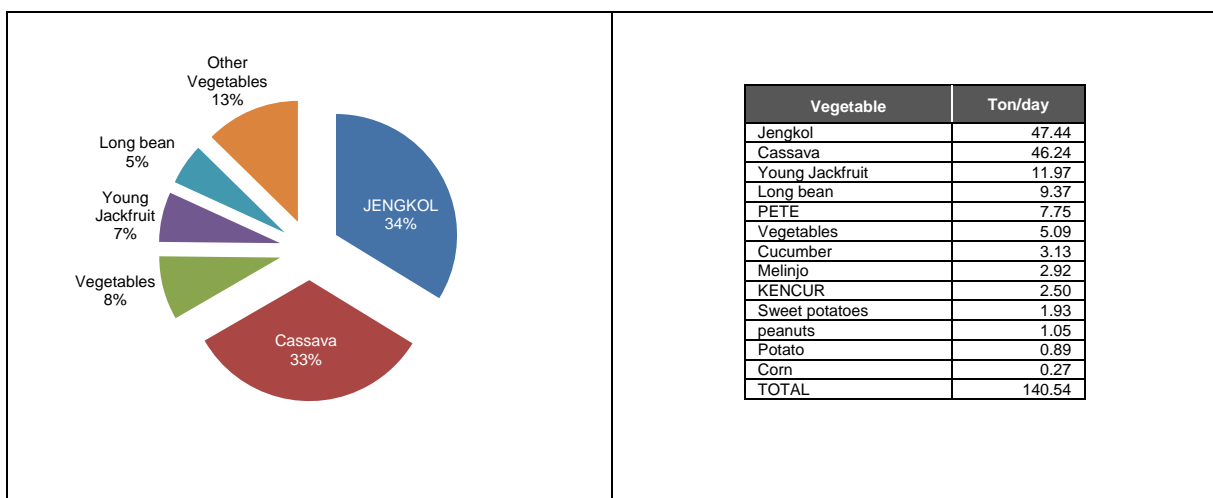


Figure 3. Items in Vegetables of Transaction at Bakauheni Port

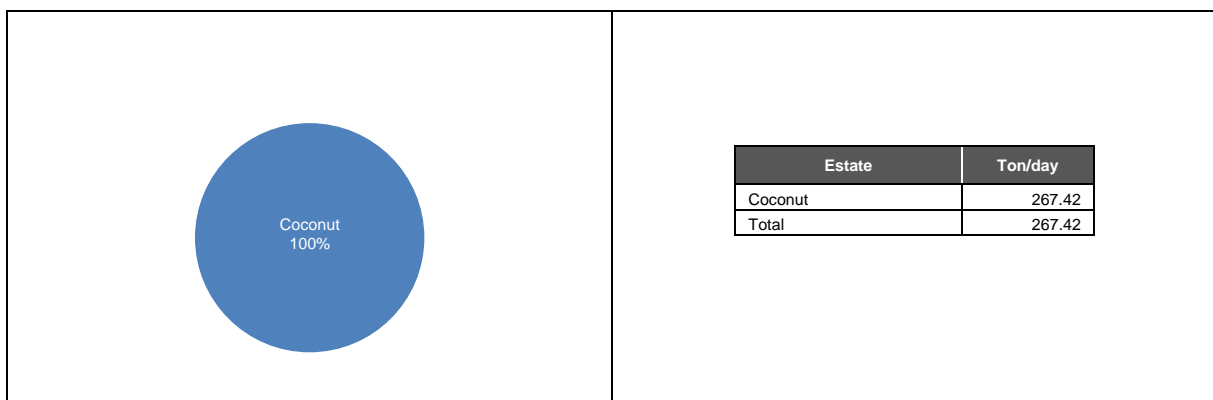


Figure 4. Items in Estate Crops of Transaction at Bakauheni Port

2) Origin

Most of the origin of all transaction come from Lampung (80% or 946 tons) per day, then South Sumatra (8% or 91 tons) and North Sumatra (7% or 83 tons), see Figure 5.

Most of the origin of fruits come from Lampung (78.4%), then North Sumatra (9%) and South Sumatra (8%), see Figure 6.

Lampung is also the origin of 89% of Banana to Java, 90% watermelon, 100% of Papaya and 43% of pineapple Figure7 - 10.

Although pineapple is the main crop in Lampung but the share to Java at the O/D survey is only 7.9%.

The origin of vegetables is more diversified than fruits. Most of the origin of vegetables come from Lampung (75%), then North Sumatra (10%), South Sumatra (8%) and West Sumatra (4%) and others (3%), see Figure 11.

Most of the origin of estate crops come from Lampung (88%), then South Sumatra (7%), Bengkulu (2%), and others (3%), see Figure 12.

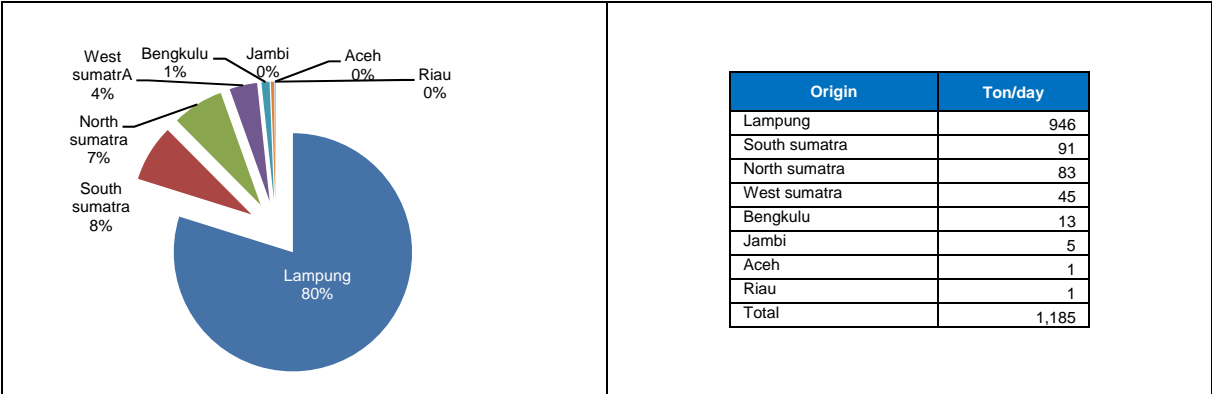


Figure 5. Origin of All Items at BakauheniPort

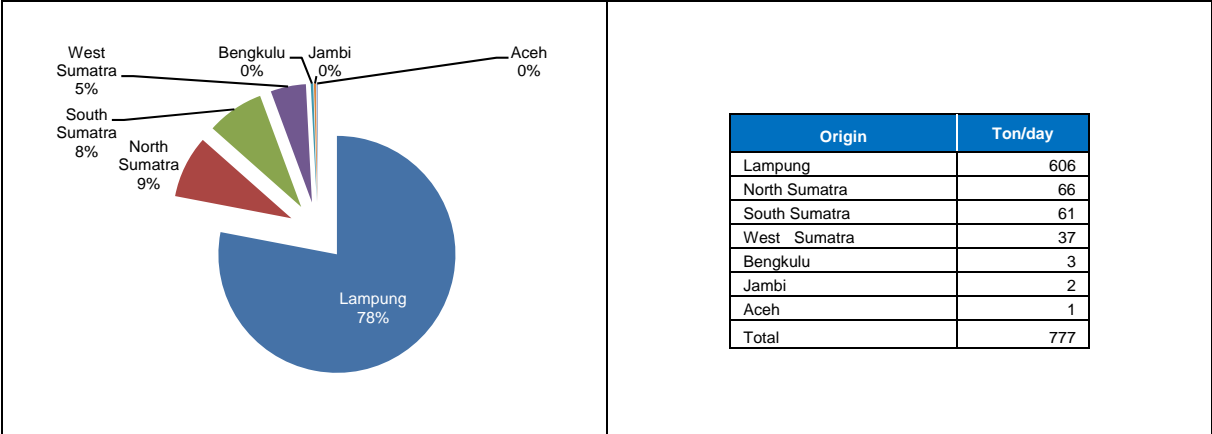


Figure 6. Origin of Fruits at BakauheniPort

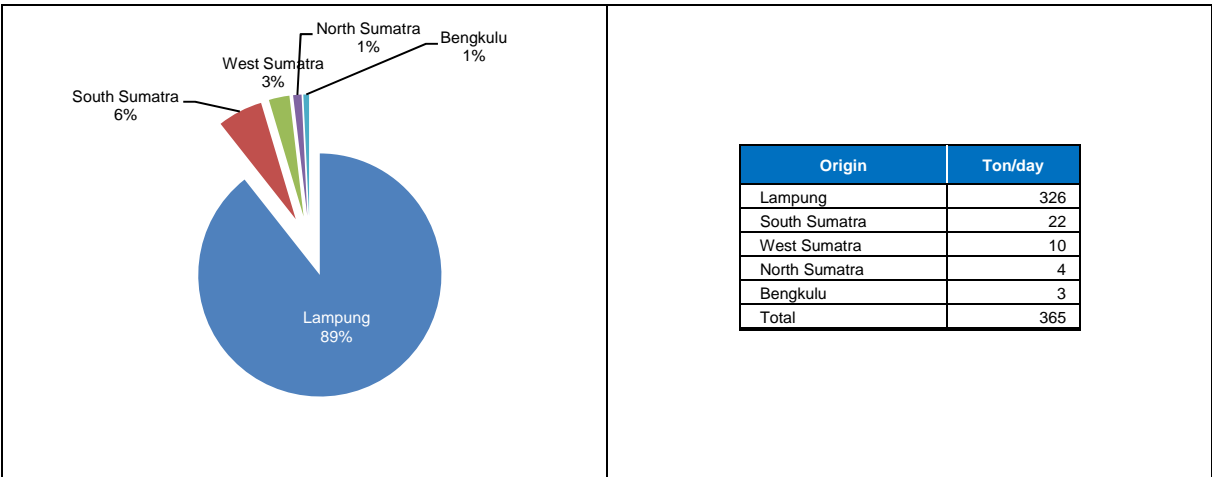


Figure 7. Origin of Banana at BakauheniPort

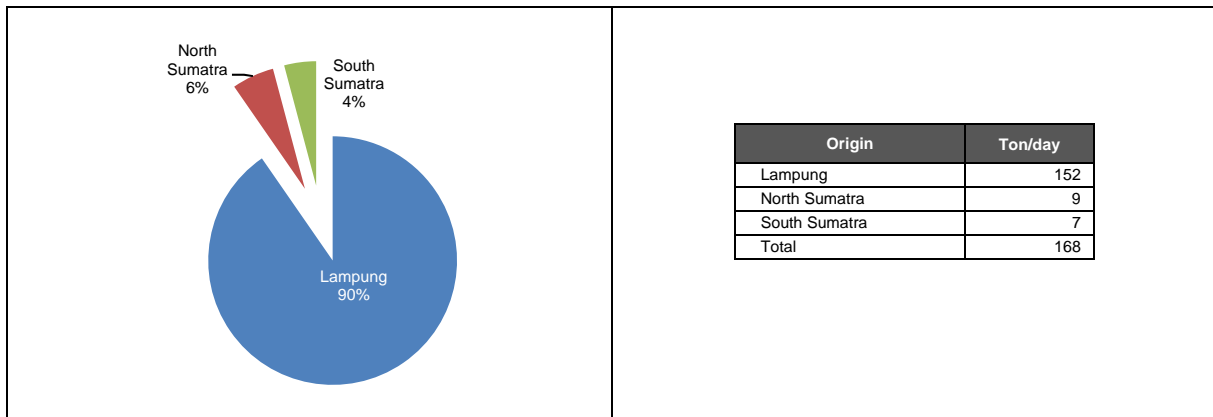


Figure 8. Origin of Watermelon at Bakauheni Port

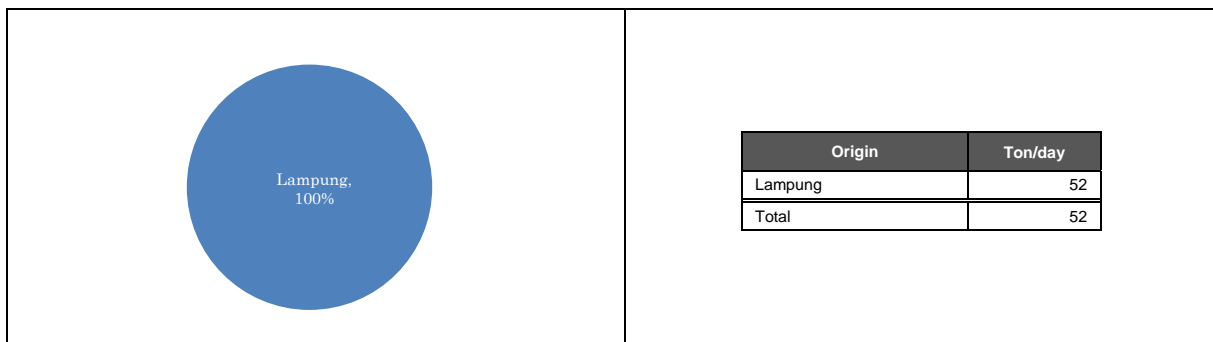


Figure 9. Origin of Papaya at BakauheniPort

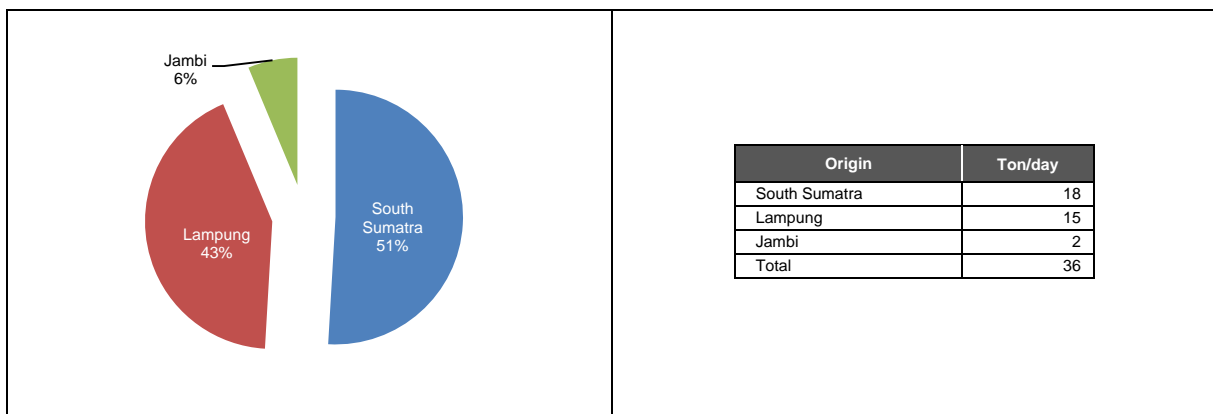


Figure 10. Origin of Pineapple at BakauheniPort

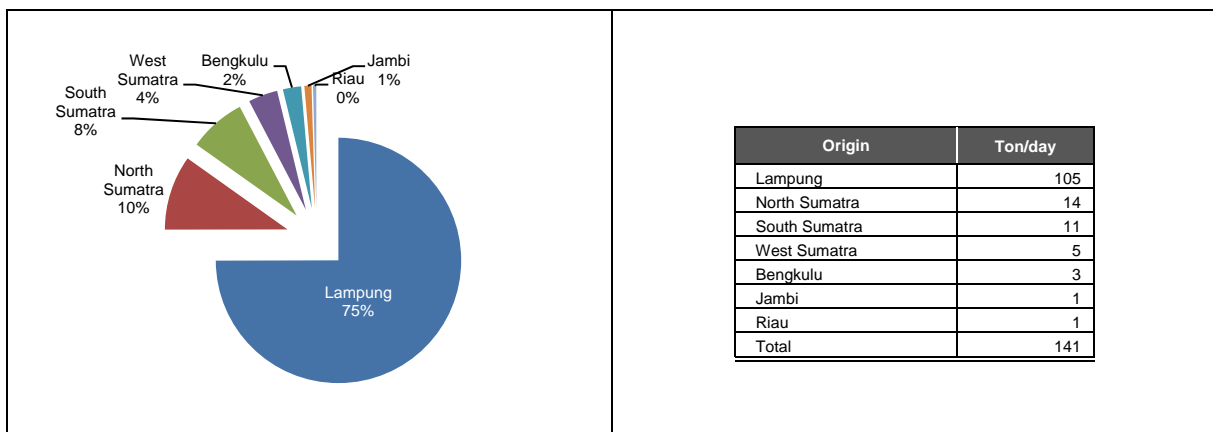


Figure 11. Origin of Vegetables at BakauheniPort

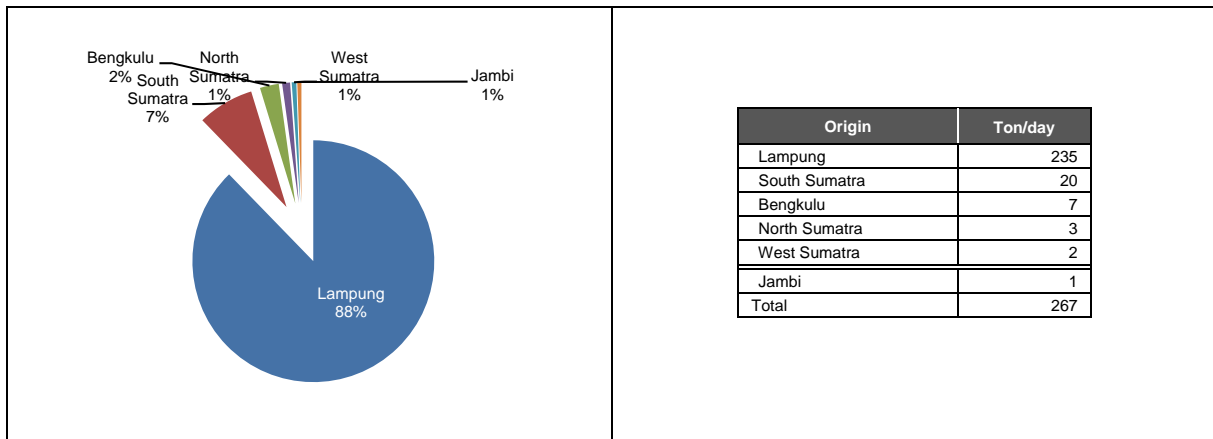


Figure 12. Origin of Estate Crops at BakauheniPort

3) Destination

Most of the destination of all transaction is to DKI Jakarta (49%, or 577 tons) per day, then to West Java (27% or 326 tons), to Banten (18% or 208 tons), see Figure 13. These top three have 97.0% share of them.

Most of the destination of fruits transaction is going to DKI Jakarta (50%), then to West Java (25%) and to Banten (20%), see Figure 14.

Most of the destination of banana is going to DKI Jakarta (42%), then to West Java and (31%), and to Banten (25%), see Figure 15.

Most of the destination of Pineapple is going to DKI Jakarta (85%), then to Banten (9%) and to West Java (6%), see Figure 16.

Most of the destination of Papaya is to DKI Jakarta (41%), then to West Java (18%), and to Banten (38%), see Figure 17.

Most of the destination of watermelon is going to DKI Jakarta (58%), then to West Java (22%) and to Banten (10%), see Figure 18.

Most of the destination of vegetables is going to DKI Jakarta (28%), then to West Java (27%), Central Jawa (26%) to Banten (18%) and to Solo (1%), see Figure 19.

Most of estate crops is going to DKI Jakarta (54%), then to West Java (36%) and to Banten. (10%), see Figure 20.

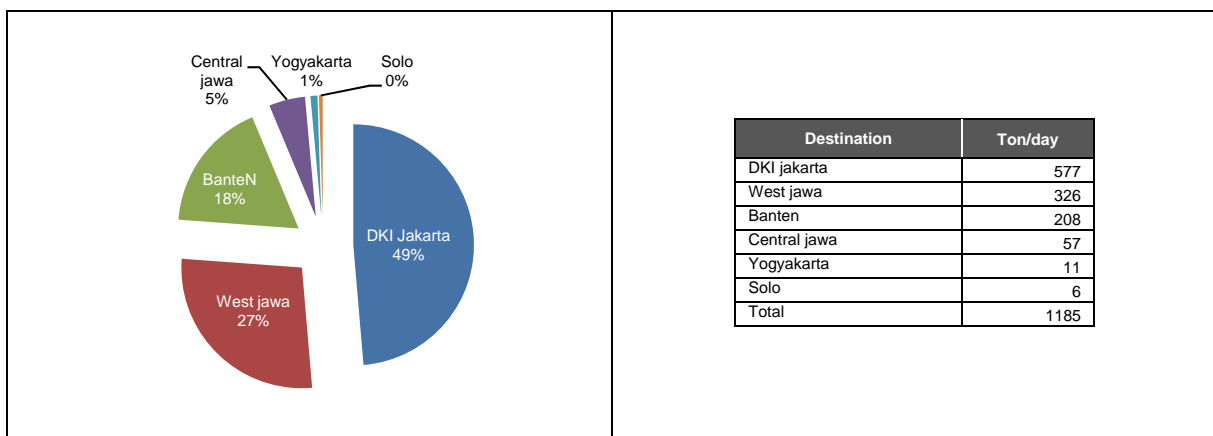


Figure 13. Destination of all Items at BakauheniPort

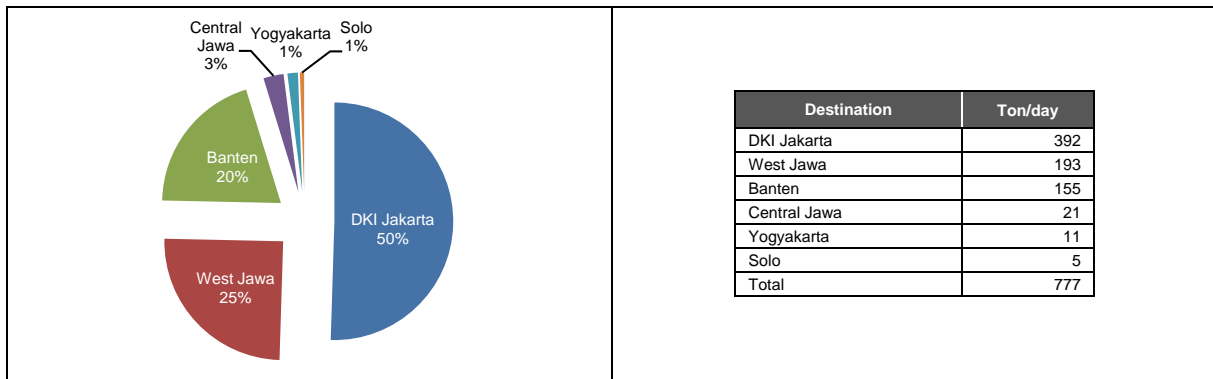


Figure 14. Destination of Fruits at BakauheniPort

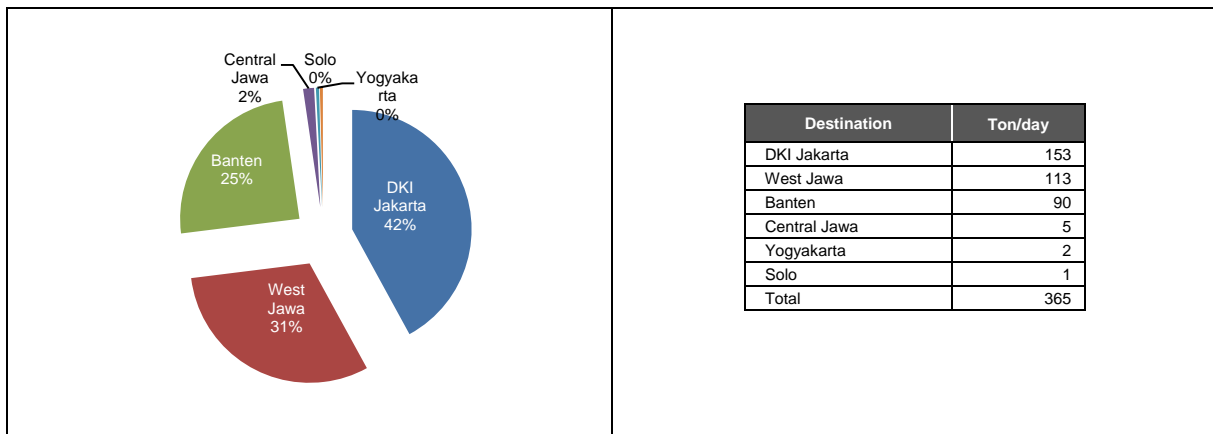


Figure 15. Destination of Banana at BakauheniPort

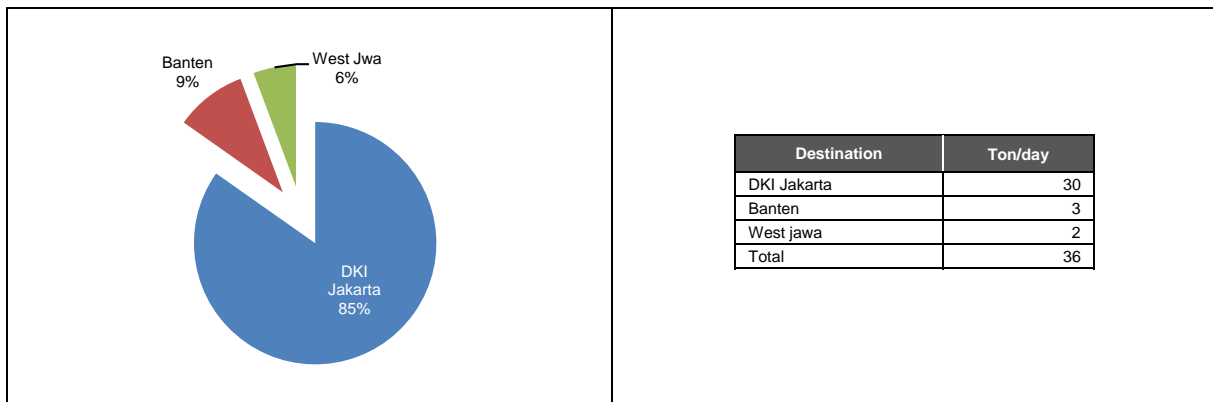


Figure 16. Destination of Pineapple at BakauheniPort

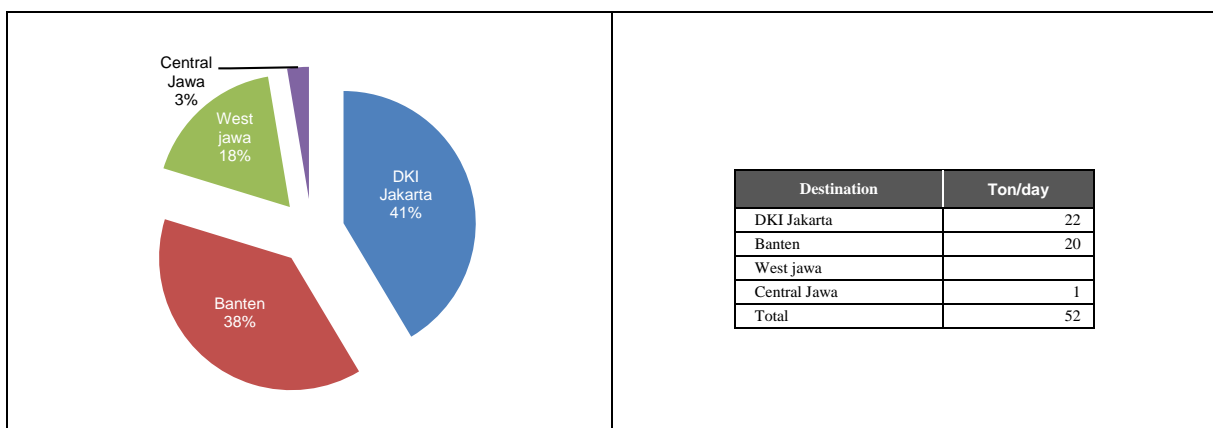


Figure 17. Destination of Papaya at BakauheniPort

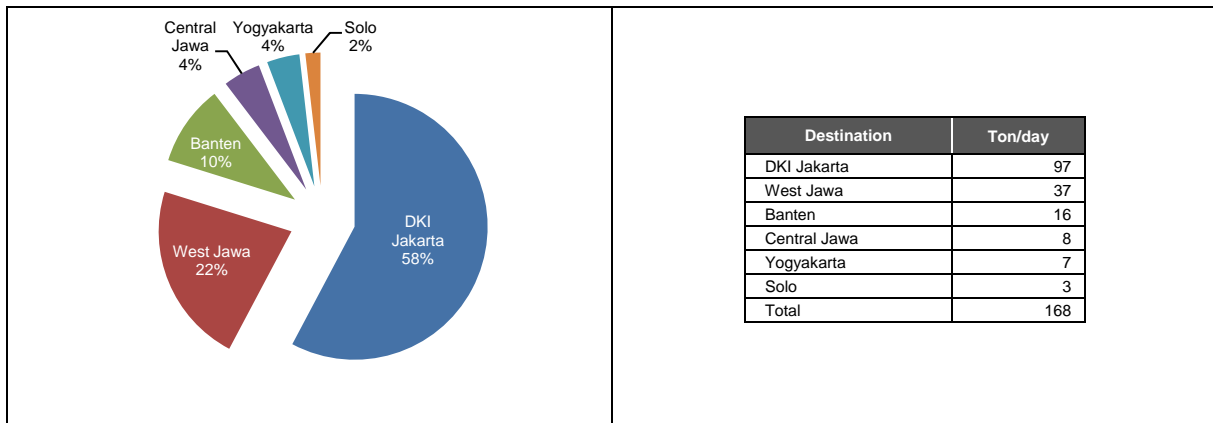


Figure 18. Destination of Watermelon at BakauheniPort

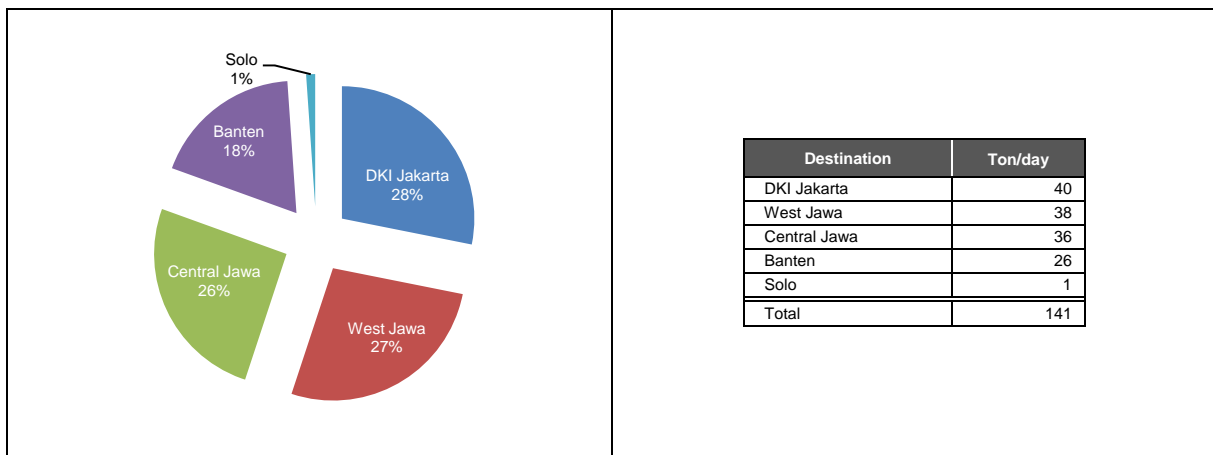


Figure 19. Destination of Vegetables at BakauheniPort

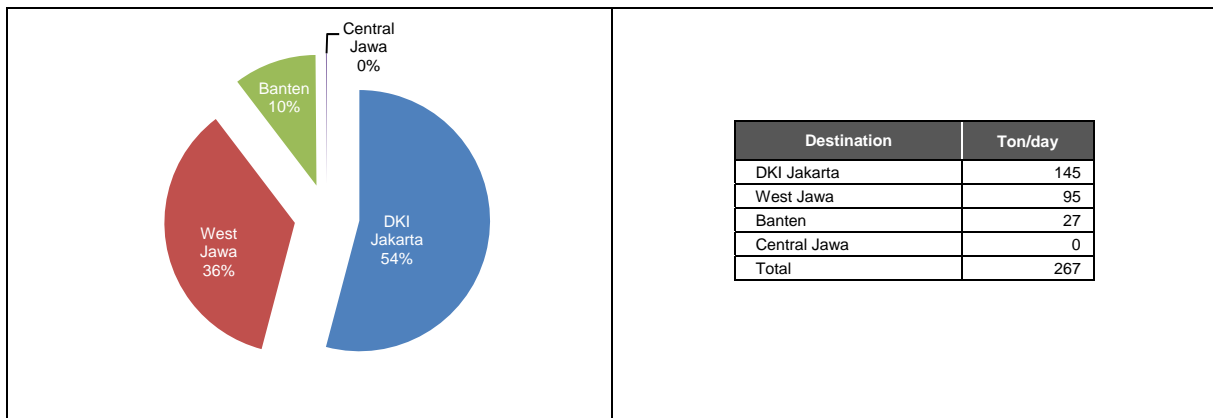


Figure 20. Destination of Estate Crops at BakauheniPort

4) From Lampung

Most of the transaction from Lampung is fruits (64%), then estate crops (25%) and vegetables (11%), see Figure 21.

Most of the fruits from Lampung is banana (54%), then watermelon (25%), papaya (8%), see Figure 22.

Most of the vegetables from Lampung is cassava (43%) and jengkol (24%), See Figure 23.

Most of the estate crops transacted from Lampung is coconut (100%), See Figure 24.

Destination from Lampung is mainly to DKI Jakarta (47%), West Jawa (28%) and Banten (19%). See Figure 25.

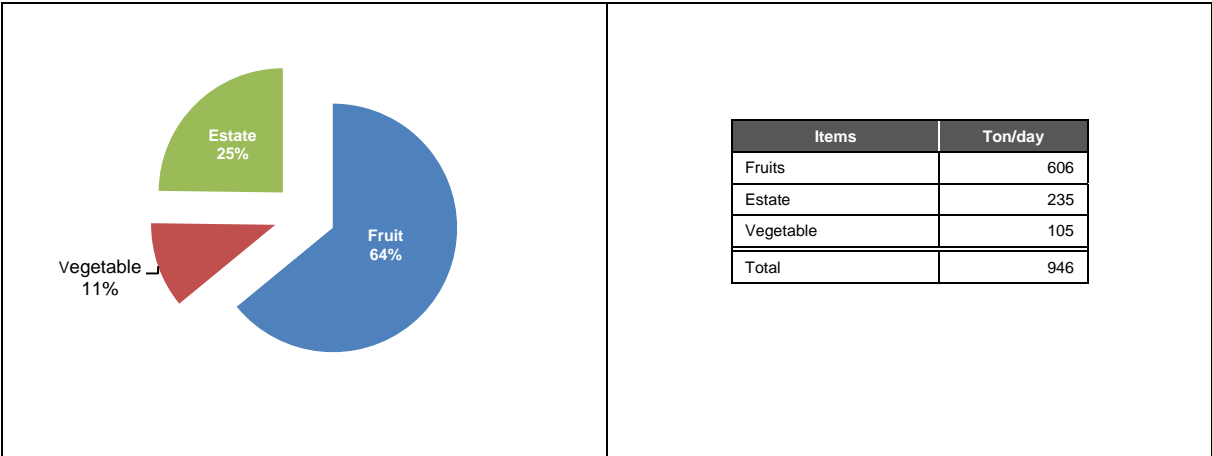


Figure 21 All Items from Lampung at Bakauheni Port

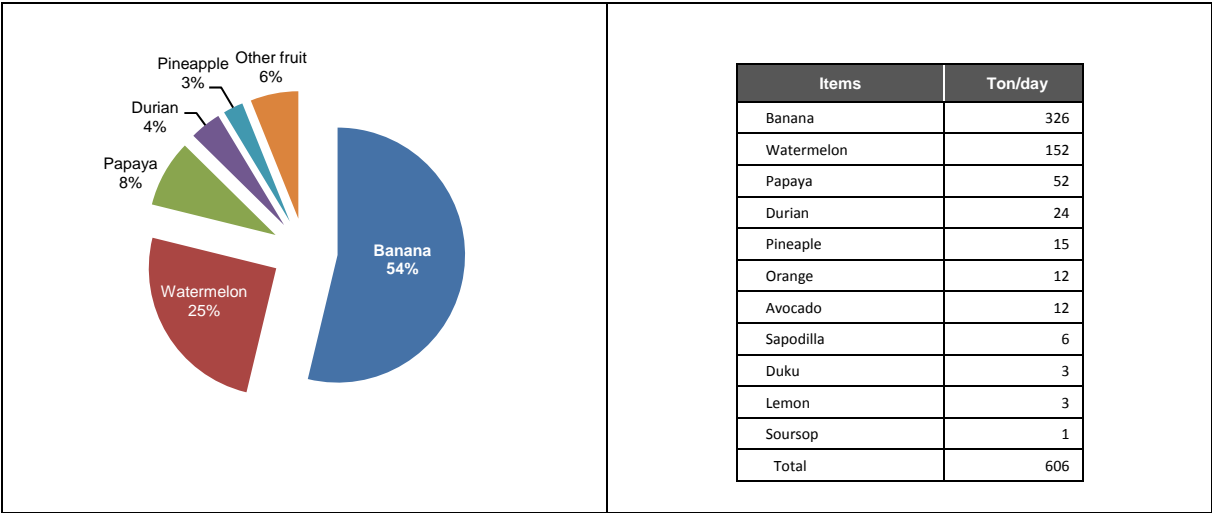


Figure 22 Fruits from Lampung at Bakauheni Port

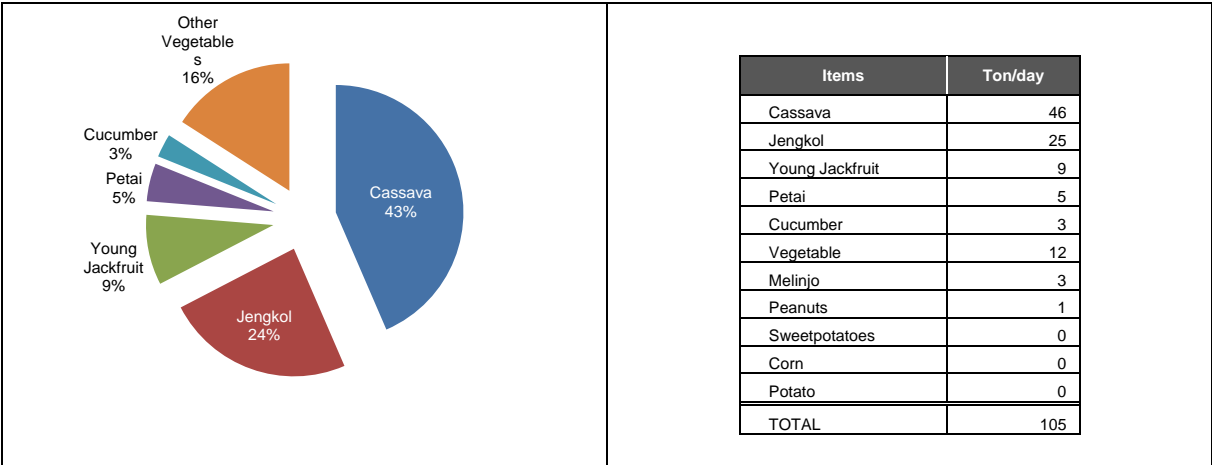


Figure 23 Vegetables from Lampung at Bakauheni Port

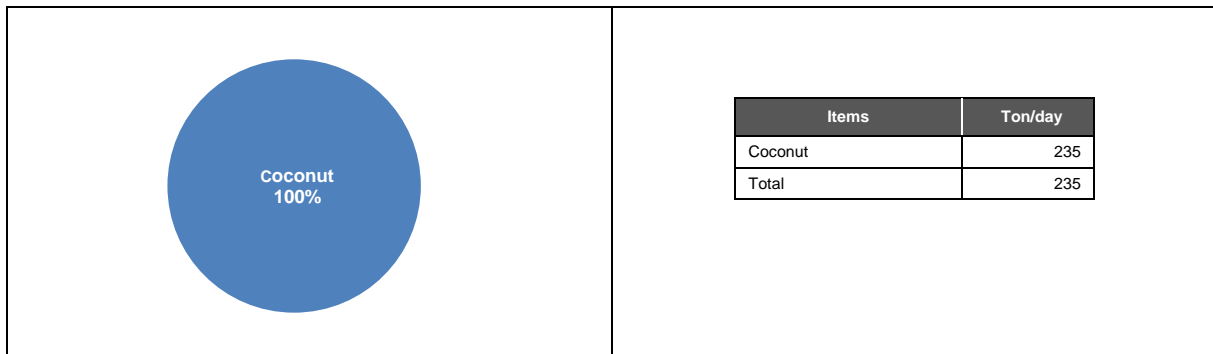


Figure 24 Estate Crops from Lampung at Bakauheni Port

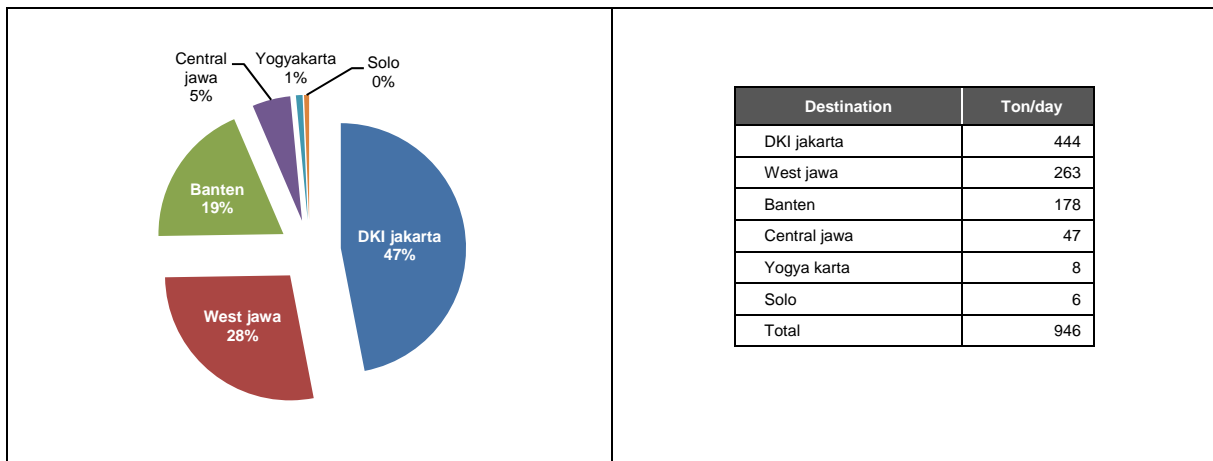


Figure 25 Destinations from Lampung at Bakauheni Port

5) To DKI Jakarta

Most of the transaction to DKI Jakarta is fruits (68%), then estate crops (25%) and vegetables (7%), see Figure 26.

Most of the fruits transacted to DKI Jakarta is banana (39%), then watermelon (25%), orange (11%), pineapple (8%) and papaya (5%), durian was not in harvest season at the survey. See Figure 27.

Most of the vegetables transacted to DKI Jakarta is Jengkol (40%) and young jackfruit (18%), cassava (12%), petai (10%) and longbean (10%).

Estate crops transacted to DKI Jakarta is coconut (100%)

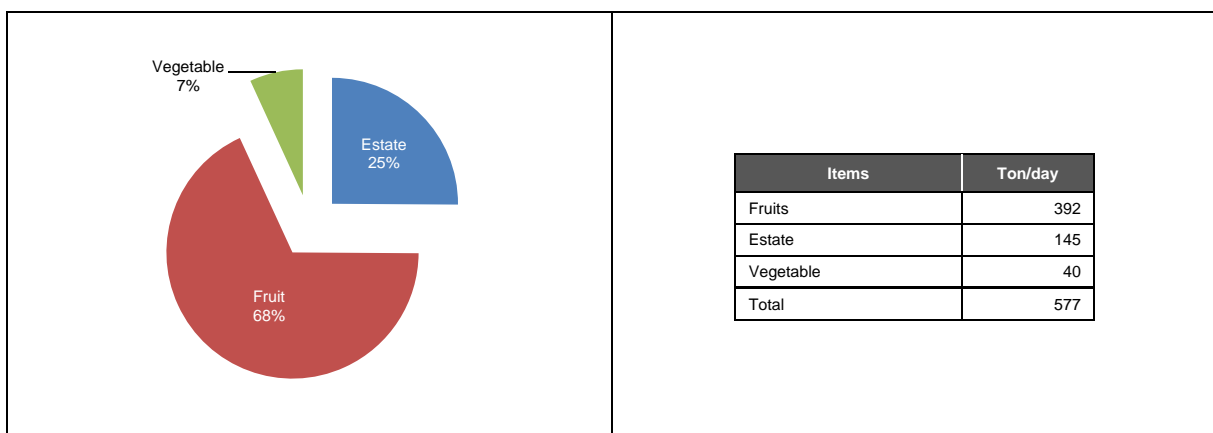


Figure 26 All Items to Jakarta at Bakauheni Port

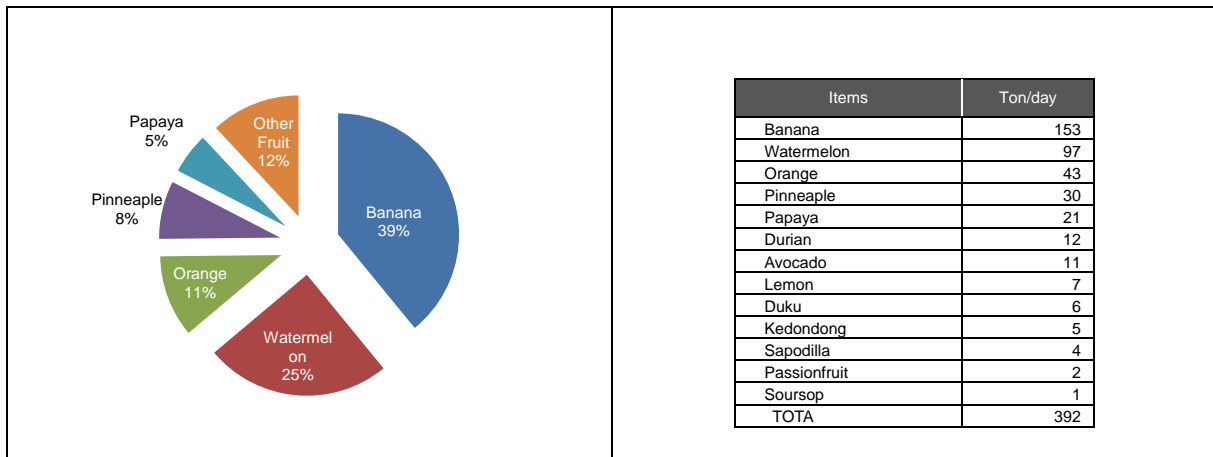


Figure 27 Fruits to Jakarta at Bakauheni Port

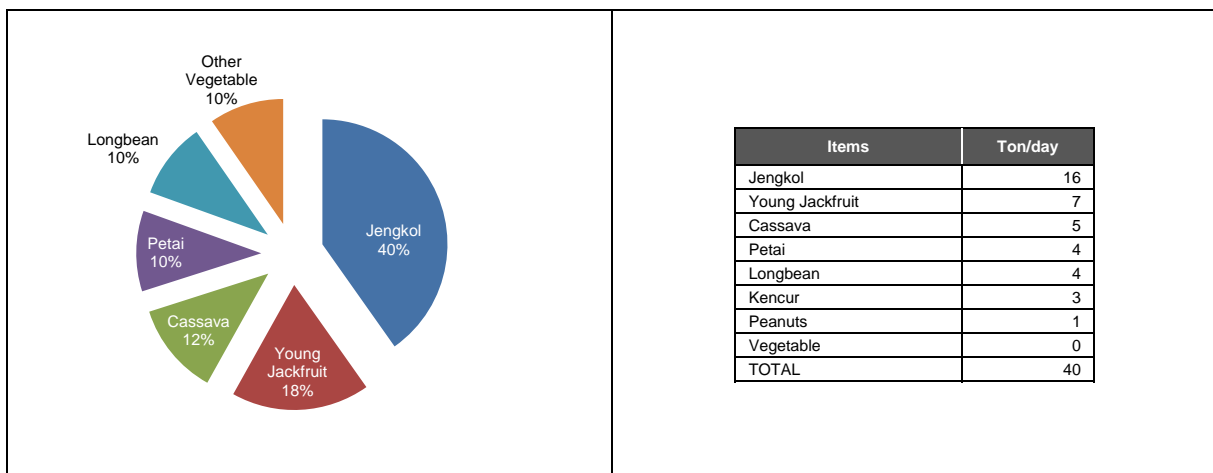


Figure 28 Vegetables to Jakarta at Bakauheni Port

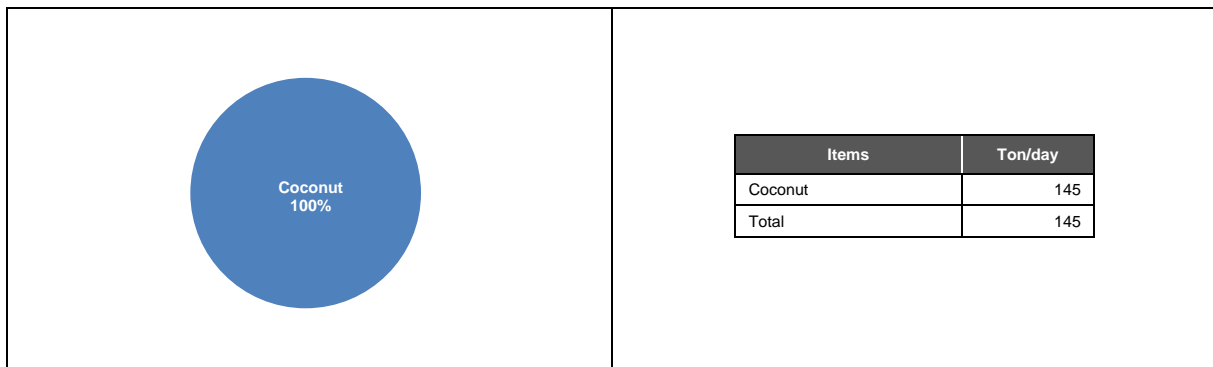


Figure 29 Estate Crops to Jakarta at Bakauheni Port

6) From Lampung to DKI Jakarta

Main transaction from Lampung to DKI Jakarta is fruits (66%), then estate crops (28%) and vegetable. (6%), see Figure 30.

Most of fruits from Lampung to DKI Jakarta is banana (44%), watermelon (32%), papaya (7%) and pineapple (7%), see Figure 31.

Most of Vegetables from Lampung to DKI Jakarta is jengkol (33%) and then youngjackfruit (28%) and petai (16%), see Figure 32.

Estate crops from Lampung to DKI Jakarta is coconut (100%).

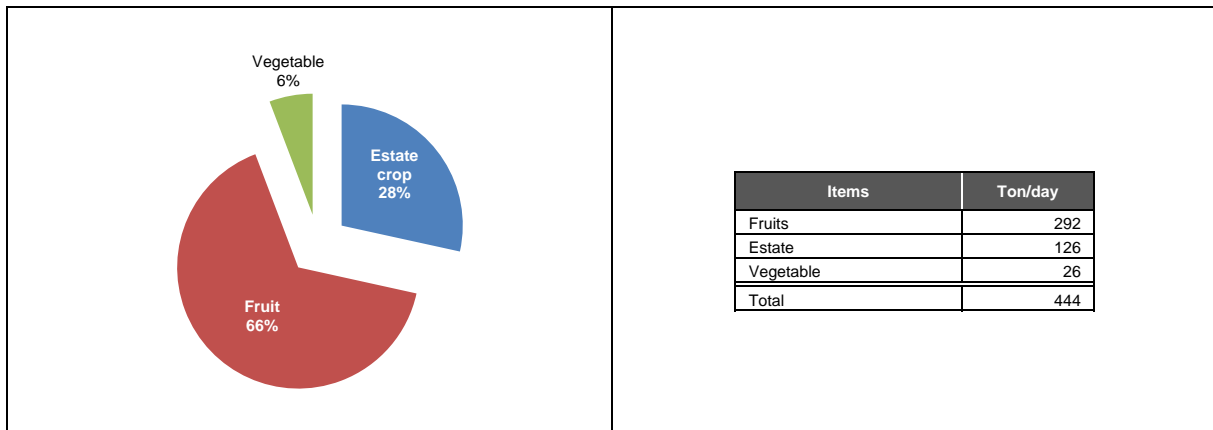


Figure 30 Categories of Products from Lampung to Jakarta at Bakauheni Port

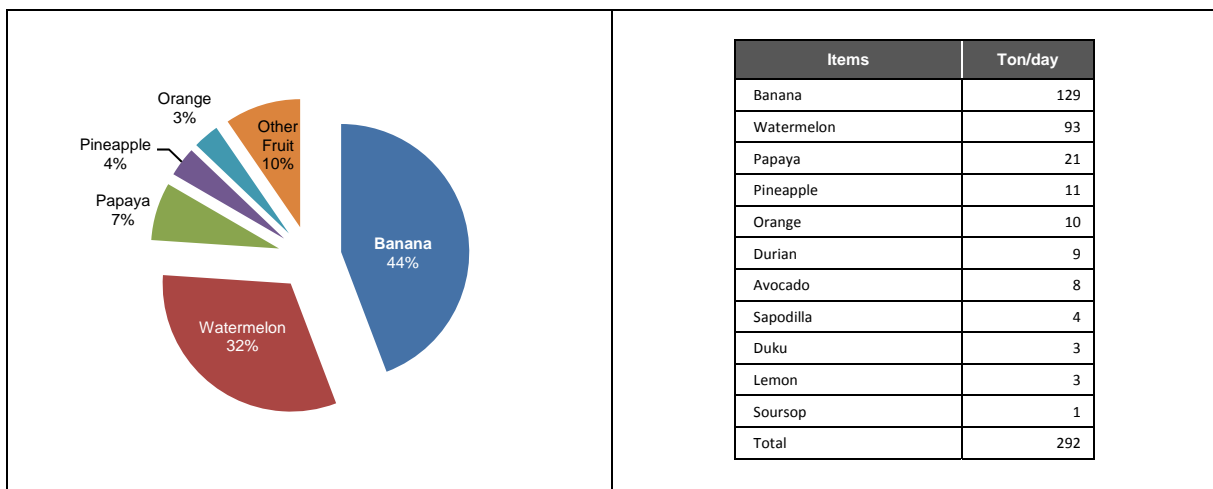


Figure 31 Fruits from Lampung to Jakarta at Bakauheni Port

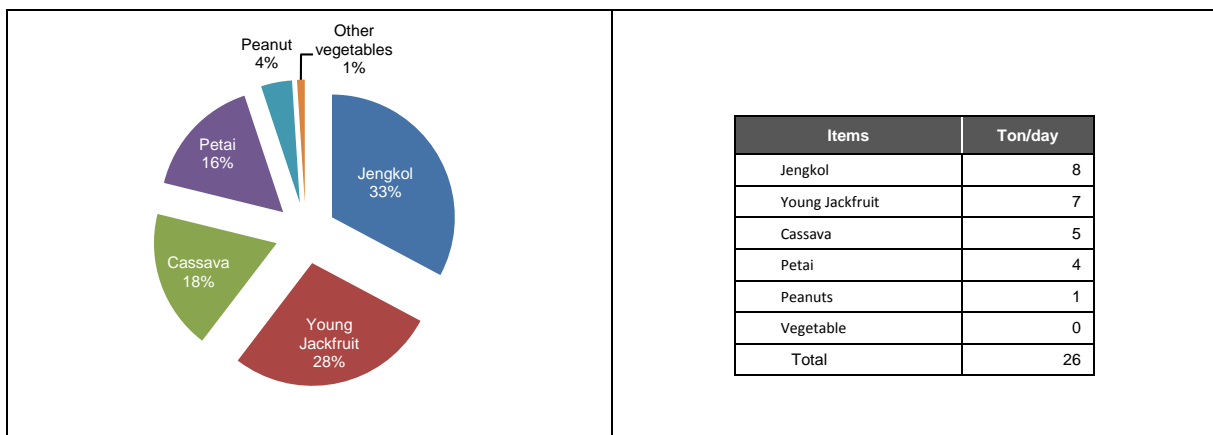


Figure 32 Vegetables from Lampung to Jakarta at Bakauheni Port

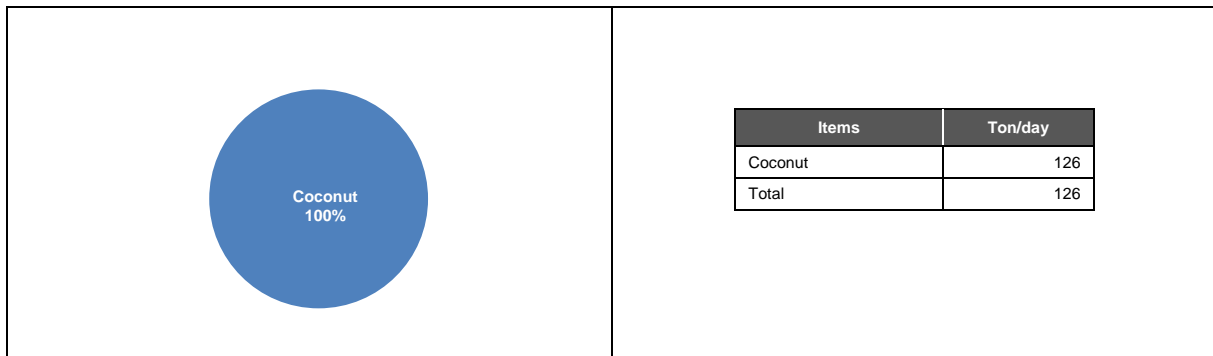


Figure 33 Estate Crops from Lampung to Jakarta at Bakauheni Port

7) Grading and Packaging

About 84% of all transaction at Bakauheni Port from Sumatra to Java are not graded nor packaged and just loaded on trucks. 16% of them are packed in the woodenbox, basket, carton and sack. See Figure 34.

Figure 35 to 38 show the percentage of product transacted in Bakauheni port, product from Lampung, product to Jakarta and product from Lampung to Jakarta.

In bakauheni, 85% fruit is unpacked 99% estate crop unpacked and 55% vegetable unpacked, see Figure 38.

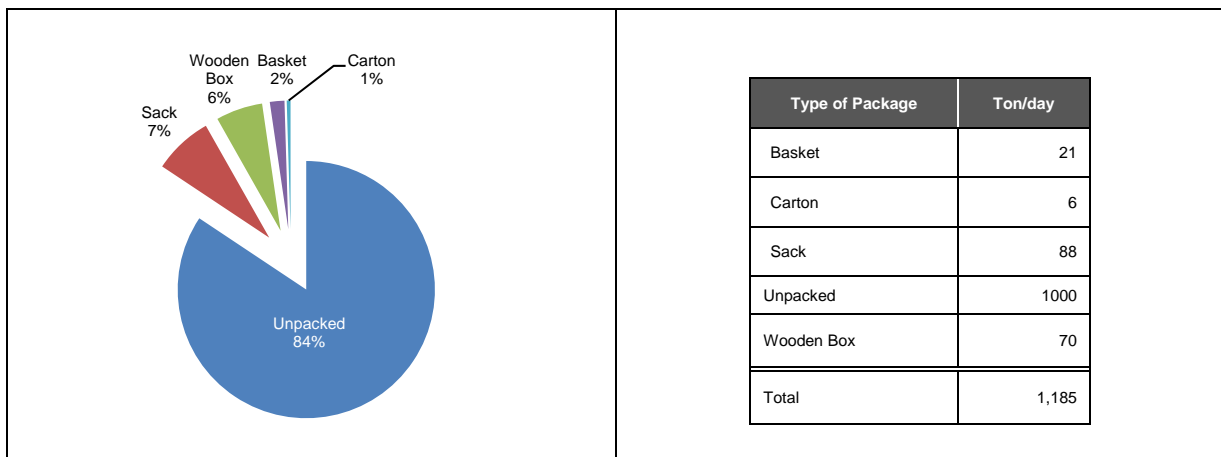


Figure 34. Grading and Packaging of All Items at Bakauheni Port

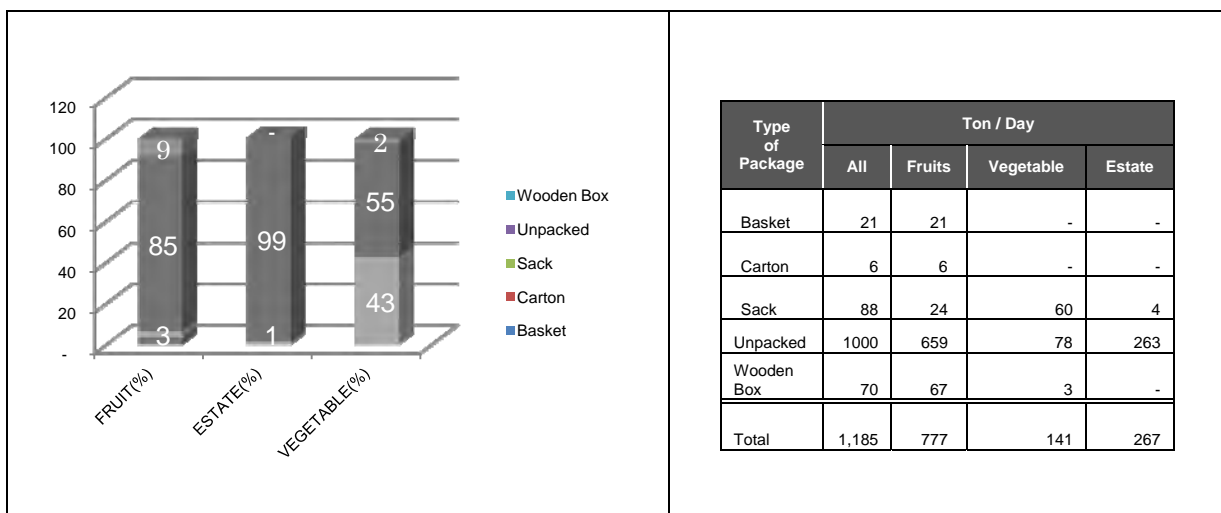


Figure 35. Grading and Packaging of All Items at Bakauheni Port

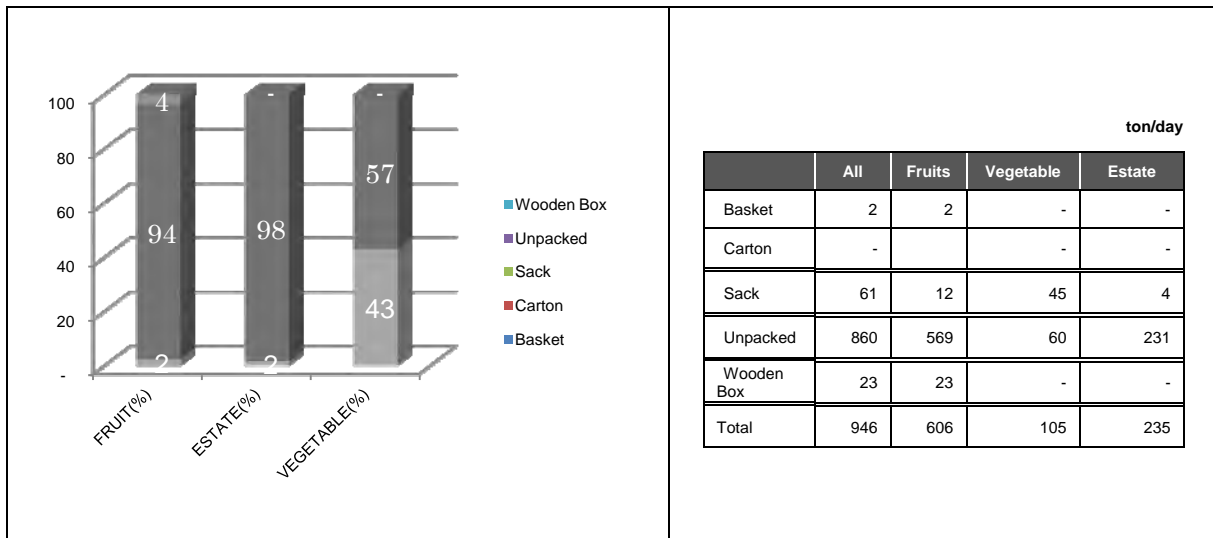


Figure 36. Grading and Packaging of All Item from Lampung at BakauheniPort

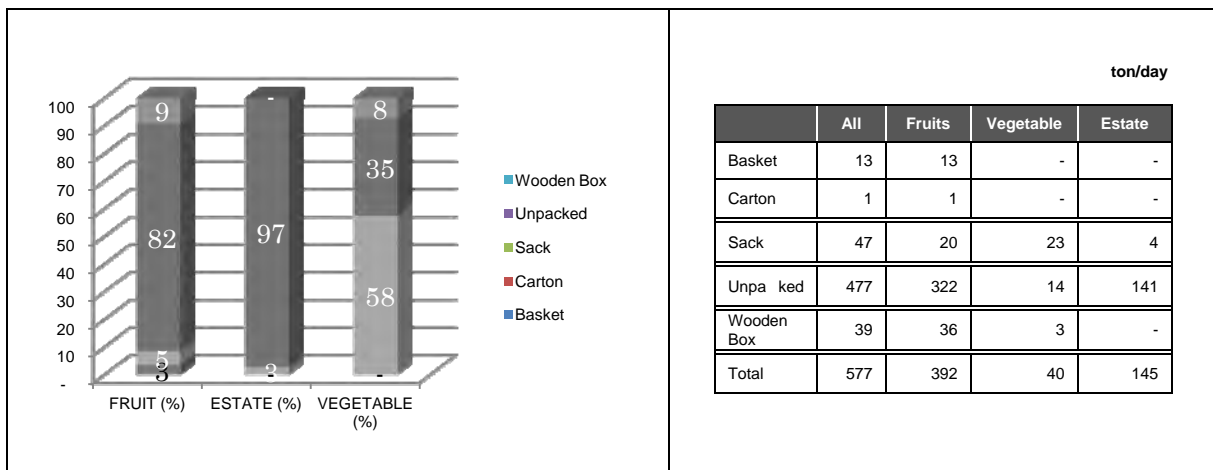


Figure 37. Grading and Packaging of All Item to Jakarta at Bakauheni Port

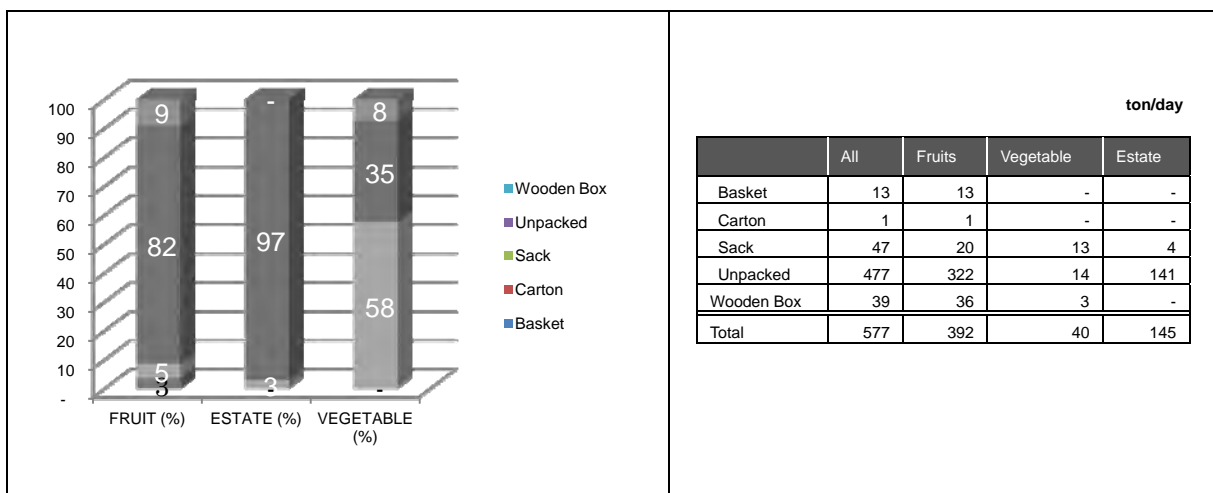


Figure 38. Grading and Packaging of All Item from Lampung to Jakarta at Bakauheni Port

8) Route

There are two main routes to Bakauheni Ferry Port. One is west side, via Bandar Lampung (Trans Sumatra Road) and the other is east route through Gunung Sugih and Maringgai. 52% of trucks were coming by west route, via Bandar Lampung and 48% were coming through Gunung Sugih and Maringgai. See Figure 39.

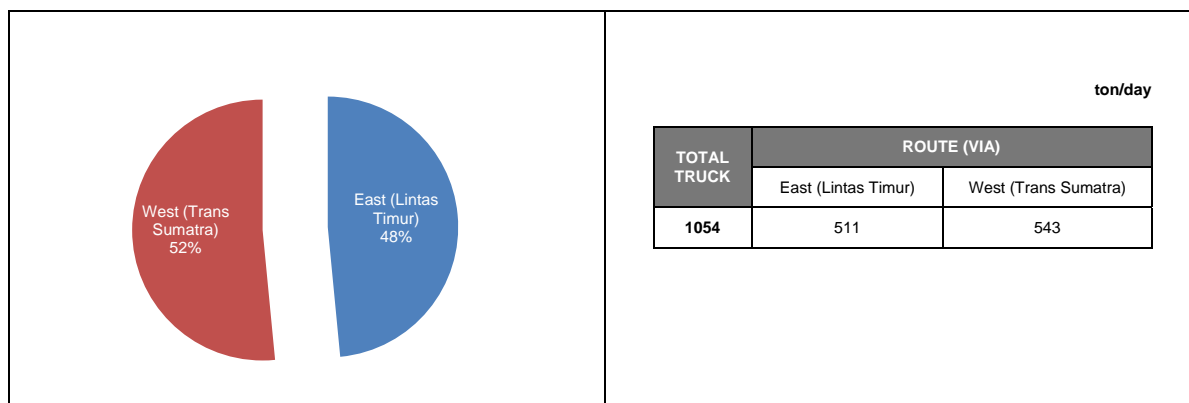


Figure 39. Routes to Bakauheni Port

1.1.4 Differences of the Result between both Surveys in May and October 2011

Comparing with first truck survey, there some different:

Parameter	Amount of Truck per Day	Volume of Product per Day (ton/day)
1 st Survey in May 2011	410.7	1,444.00
2 nd Survey in October 2011	351.3	1,185.26

1.2 Value Chain Survey

1.2.1 General

- (1) **Objectives of the Survey.** To identify the changes of marketing prices of a few typical fruits, vegetables and estate crops in the inter-provincial marketing system between Lampung Province and DKI Jakarta.
- (2) **Survey Areas.** From production areas in Lampung Province to the food processors in Lampung Province, and to the wholesalers, bulk buyers and retailers in DKI Special Capital Province of Jakarta.
- (3) **Target Crops.** A few typical horticulture crops (fruits and vegetables) and estate crops exported from Lampung Province to DKI Jakarta shown as follows;
 - i. Vegetables: 2 or 3 vegetables that are coming from Lampung to Jakarta regularly, for examples, hot pepper, red onion and so on.
 - ii. Fruits: a) banana, b) watermelon, c) pineapples
 - iii. Estate crops: a) coconut.
- (4) **Target Levels.** Estimated target levels for confirming marketing price of target crops are followings;
 - i. Farmers and Farmers' groups
 - ii. Inter-provincial Traders
 - iii. Buyers
 - iv. Food Processors in Lampung Province
 - v. Wholesale Market in DKI Jakarta
 - vi. Supermarkets in DKI Jakarta
 - vii. Hotels / Restaurants
 - viii. Retailers in DKI Jakarta
- (5) **Scope of the work.** The price formation (value chain) survey is organized to identify the changes of marketing price of the target crops, confirming the selling volume and storing method at each trading level. The methodologies of the survey are following;
 - i. To select the inter-provincial traders who understand the objectives of the survey and give the CONTRACTOR their permission to attend on the products (target crops) from target level a) to d) mentioned above in order to record the changes of marketing price, selling volume, damage condition, and storing method at each trading level.
 - ii. To attend on the products (target crops) from target level a) to d) mentioned above, and trace the changes of marketing price of the target crops, checking selling volume, damage condition, and storing method at each trading level, and to complete the value chain matrix.
 - iii. This survey should be done in October, 2011.
 - iv. Considerable affairs
 - v. It is necessary to get clear-cut information about the difference of price formation between "relatives network" case (note: trader and buyer are relatives) and the other case (traders and buyer are not relatives).

1.2.2 Overview on Value Chain of Products From Farmer Gate in Lampung

Marketing channel is a series of commercial institutions which throughed goods in the distribution from producers to consumers. Fruit and vegetable marketing channels in the area of Lampung from farmers to end consumers, both bulk buyers (hotels, restaurants, supermarkets) as well as consumers, involves multiple marketing perpetrators such as farmer groups, collectors, wholesalers, suppliers, and retailers.

The Survey Team has conducted pre-survey to determinate the commodity to trace and figure the value chain. The basic parameter as an important factor of the survey is the complete chain of the commodity from farmer gate in Lampung to end consumer in jakarta. The critical point of this chain is

finding the Collector in Lampung and the wholesaler in Kramatjati. After finding this two actors, the Survey Team can trace the chain from wholesaler to end consumers as well as from Collector to farmer.

Based on the survey, the value chain of agricultural product from farmer gate in Lampung to end consumers in Jakarta (especially Kramatjati) in general is shown in Figure ax 1.2.1.

In agriculture sector, there are at least 5 main actors in value chain; farmer, middlemen, wholesaler, retailer and consumer. Along the way, with the difficulties in transportation, networking, price difrencess and closed information, then arise some other additional actors such as; agent (in farmers level) between middlement and farmers, agent (in consumers level) between wholesaler and retailer. The goes to the consumers in the end of the chain.

This long distribution pattern make the price or the product in each point increase and in the end, the price is so high when arrive in end consumers.

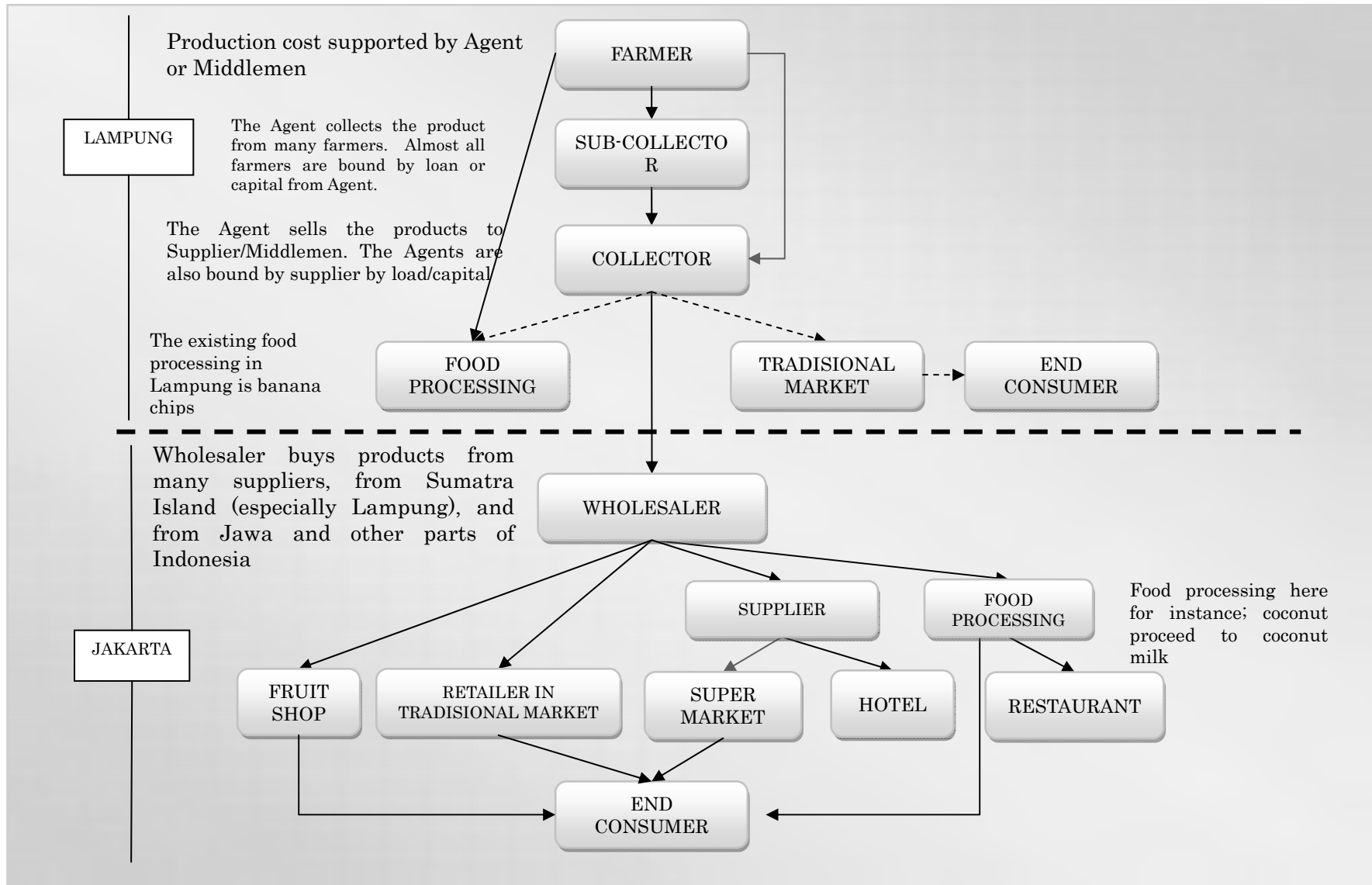


Figure ax 1.2.1 Overview of Value Chain Product from Farmer Gate in Lampung to End Consumer in Jakarta

1.2.3 Value Chain for Each Commodity

Based on the TOR, a few typical horticulture crops (fruits and vegetables) and estate crops exported from Lampung Province to DKI Jakarta shown as follows; i) Vegetables: 2 or 3 vegetables that are coming from Lampung to Jakarta regularly, for examples, hot pepper, red onion and so on; ii) Fruits: 1) banana, 2) watermelon, 3) pineapples; and iii) Estate crops: a) coconut.

The Survey Team has conducted pre-survey in Kramatjati to see the majority of sales/trade product from Bandar Lampung. The majority of commodity that come from Lampung are banana, papaya, watermelon and coconut. Almost no vegetables come from Lampung to Kramatjati. To make sure about vegetable, the team conducted survey in Lampung market (Gintung and Tamin market), and found no vegetables from Lampung either. It means that the production of vegetables in Lampung is very low, even not able to fulfill the need of vegetables in Lampung (in Lampung market, the vegetable come from outside Lampung). For fruit, the majority commodity is banana, watermelon and papaya, and coconut for estate crop.

(1) Value Chain of Banana

Supplier/Middleman gives some (amount) of money to his agent as the banana collector. The Agent uses the money to deposit/lend to Farmers as needed, so that the Farmers willing/bound to sell their harvest to the Agent. The amount of fund provided by the Middleman is varying, based on the need of the farmer.

Banana from Farmers is on stem, but the payment is based on the weight (kg). The calculation technique is that, after weighing one stem, the weight will be reduced by 1 kg per stem. So, if the weight of one stem is 10 kgs, then the payment is 9 kgs.

Banana in Lampung goes to local market, to banana chips home industries and to Jakarta. In case of survey, the team surveys banana which is sent to Jakarta. The location of survey is in production center in Wana Village, Malinting Sub district, Lampung Timur District. Table ax 1.2.1 shows the cost and profit of Banana. The calculation of cost per trip from Middlemen to Jakarta is shown in Table ax 1.2.2 and the value chain of banana is shown in Figure ax 1.2.2.

Table ax 1.2.1 Cost and Profit (Collector)

Activity	Total Cost (RP)	Unit cost (Rp / Kg)	Description
Banana price	4,970,000	1,125	1. Truck capacity 5,300 Kgs 2. Sometimes the truck also load coconut so, the capacity not reach 7 tons. 3. Selling price (average) in Kramatjati is RP 1.425,-/kg (depend on the type). 4. Margin per kg RP 1.425 - Rp.1.125 = RP.300,-/kg.
Harvest to uploading to truck	0	0	
Aging	0	0	
Transport to Kramatjati	1,700,000	321	
TOTAL	6,670,000	1,445	

There are some supplier who sell the product to Jakarta using truck from Jakarta that have deliver some product to Lampung. The payment for this kind of transportation is cheaper than renting truck or using thier own truck. By using Jakarta Truck that have no container from Lampung, the supplier just need to pay about 500,000 to 800,000 (this case found in South Lampung).

A. Problems

1. In farmer's level, the treatment for the plant is low/ traditional, so that the result of low quality fruit coupled with a long dry season so that papaya fruit weighs less, though sweeter taste.
2. Fruit picked sometimes not ripe enough or even to ripe/old, so when arrive in Jakarta there are dome rotten condition of banana.
3. At farmers and collectors level, there is no grading. They take all sizes as long as it is not rotten papaya shipped to buyers in Jakarta,

4. The purchase price of the farmer level is determined by agreement between the Collectors with Wholesaler in Kramat Jati Market.

B. Suggested Solution

1. There needs to be standardization of the quality of banana which is purchased by Collectors at farmer level, in order the traded banana is best quality and the farmers receive higher price and reduce waste at the site receiving the goods in Jakarta (each truck approximately 100 kg).
2. Additional treatment should be applied at farmer level (i.e., fertilizing, fruit treatment, pest and parasite handling).
3. Packaging also important if the quality of banana can meet the supermarket level.

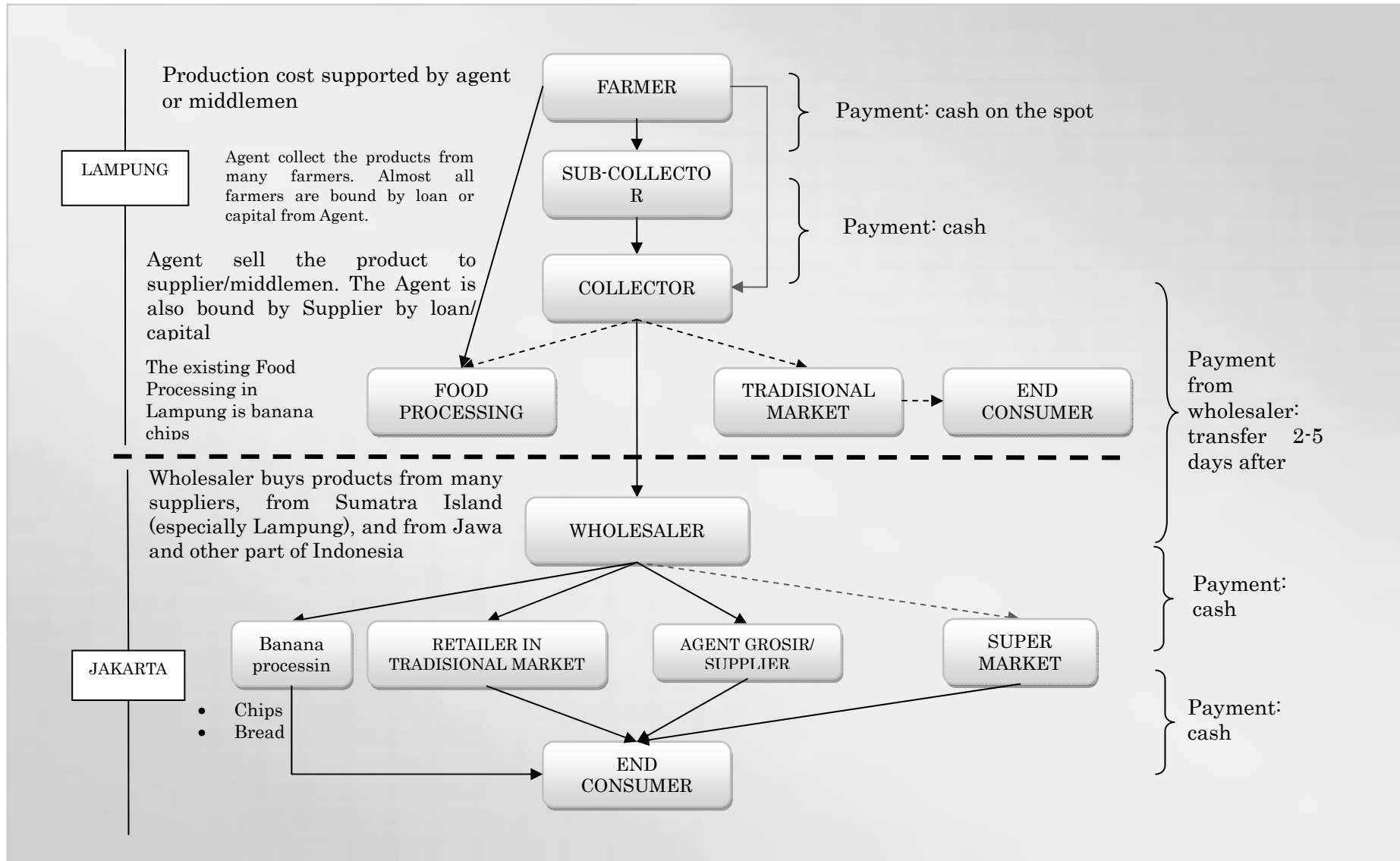


Figure ax 1.2.2 Value Chain of Banana

The common system in banana is, the farmer sell the product to sub-collector then sub-collector sell the product to collector and collector sell it to wholesaler in Jakarta. For keeping the system on track, collector use some capital/money to bound the sub-collector. By using this capital, sub-collector then send or lend the money to farmer to bound them.

Beside this chain, there are other system that exist the system is that farmer sell banana to sub-collector, sub-collector sell banana to collector then sort, grade and package the banana. The scheme is shown as follows;

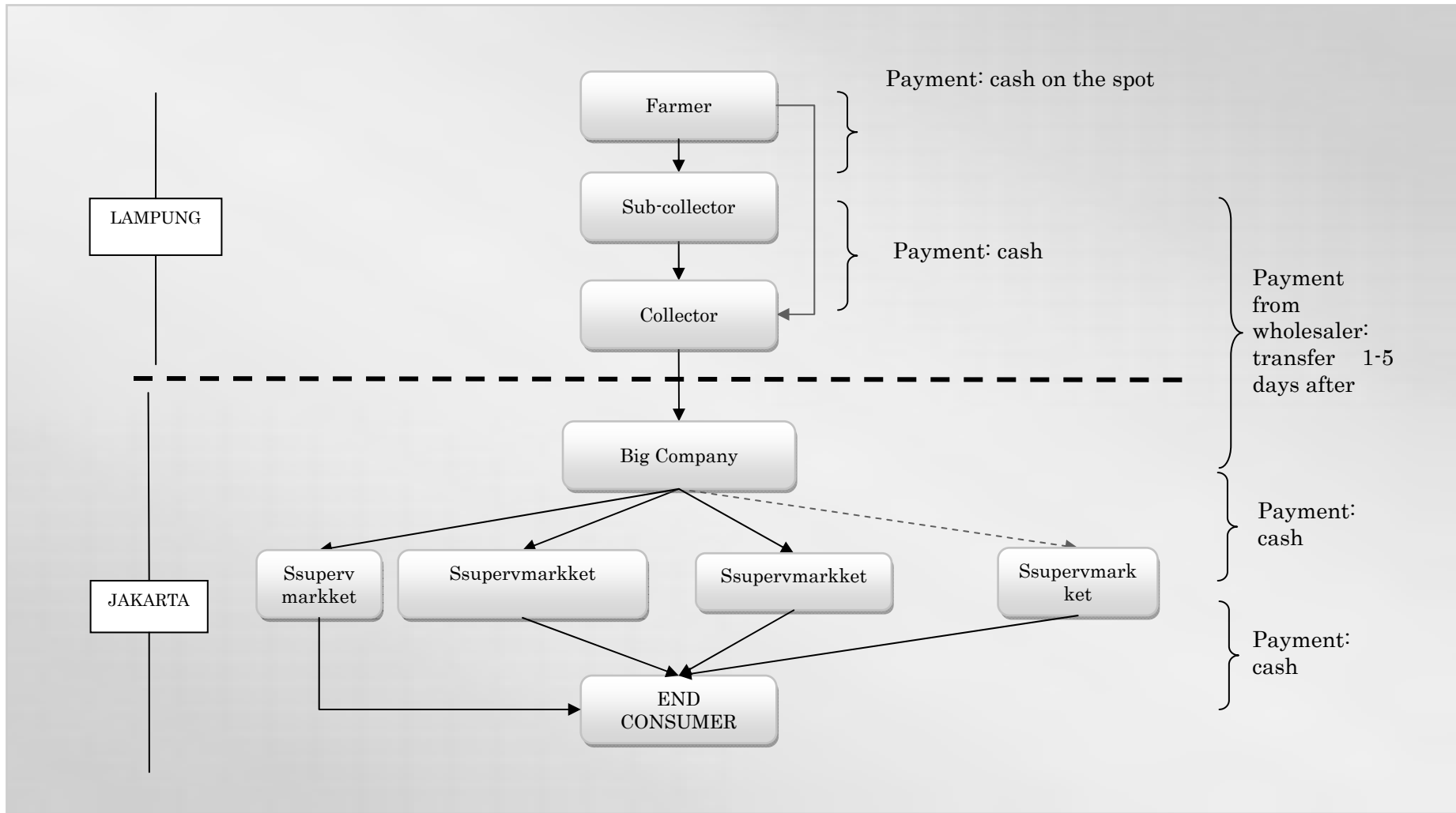


Figure ax 1.2.3 Value Chain of Packaging Banana

Table ax 1.2.2 Banana Price from Farmer Gate to End Consumer in Jakarta

AREA	Value Chain Actors	Variety RP/Kg								Added Value of Each Class - Margin (RP/Kg)				Description
		Ambon (A)		Tanduk (B)		Kepok (C)		Rames (D)		A	B	C	D	
		Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell					
LAMPUNG	Farmer	-	1200	-	1200	-	800	-	600	1200	1200	800	600	Farmers sell the product in stem without any class (no sorting), and no cost (traditional). The weight of the banana is reduced by 1 kg for the stem
	Sub-Collector	1200	1400	1200	1400	800	900	600	800	200	200	100	200	Agent collects banana from farmers then sells it to Supplier. Supplier sends his truck to collect banana to the Agent. Sometimes the Agent sends his banana to supplier/ middlemen but not often.
	Collector	1400	1800	1400	1600	900	1200	800	1100	400	200	300	300	Supplier sells banana to the wholesaler also no sorting
JAKARTA	Wholesaler (Kramatjati)	1800	2000	1600	2300	1200	1800	1100	1150	200	700	600	50	Wholesaler pays to the supplier/ middlemen by bank transfer, 2 - 3 days after. Sometimes more, but they have already trust each other. Wholesaler also sorts banana to higher and lower quality to differentiate the price
	Supplier (in Kramatjati)	2000	2500	2300	2500	1800	2000	1150	1650	500	200	200	500	Agent/middlemen only do simple sorting (higher and lower quality), and the lower quality goes to other buyers.
	Retailer	2500	5000	2500	3500	2000	3000	1650	4000	2500	1000	1000	2350	Retailer sells banana in stem, "sisir" (comb) and Kg.
	End Consumer	5000	-	3500	-	3000	-	4000	-	-	-	-	-	End Consumer: individual, office, depended on where they bought
	Banana Processing	-	-	-	-	-	-	500	-	-	-	-	-	-500
TOTAL										15000	13200	13200	14350	

ACTORS	ANNUAL (TRADE)	
	VOLUME (TON)	VALUE (RP) *MILLION
Collector	1080	1,215
Wholesaler (Keramat Jati)	8064	13,708

(2) Value Chain of Papaya

In case of papaya, there are only 2 chain in Lampung, consist of Collector and Farmer. The middlemen provides the Farmer “nursery” for free, and then the farmer plant it. This nursery is the type of papaya that is tradable and have high demand (type: papaya Bangkok). The production center of Banana is in Wana Village, Malinting Sub district, Lampung Timur District.

Middlemen also provides some means of production for farmers if they need it. This is for loan, so whenever the Farmer need it, middlemen will provide it and add the farmer’s loan. Table ax 1.2.3 shows the cost and profit of Papaya. The calculation of cost per trip from Middlemen to Jakarta is shown in Table ax 1.2.4 and the value chain of papaya is shown in Figure ax 1.2.4.

Table ax 1.2.3 Cost and Profit of Papaya from Collector to Jakarta

Activity	Total Cost (RP)	Unit Cost (RP/Kg)	Description
Papaya price	2,500,000	1,000	1. Capacity 2,500 kg
Harvest to uploading to truck	75,000	30	2. Selling price in Kramatjati is Rp.1.700,-/kg.
Aging	25,000	10	3. Margin per kg Rp. 1.700 - Rp.1.560 =Rp.140,-/kg.
Transport to Kramatjati	1,300,000	520	4. Additional profit from farmer Rp.200/kg
TOTAL	3,900,000	1,560	

From table, Collector receive RP 140 + 200 (per Kg). This amount of profit (RP 340) will also multiply by the margin that supplier get everytime farmer ask him to provide fertilizer.

A. Problems

1. In farmer’s level, the treatment for the plant is low/ traditional, so that the result is low quality fruit coupled with a long dry season so that less weight, though sweeter taste.
2. Fruit picked sometimes not ripe enough or even too ripe/old, so when arrived in Jakarta there are some rotten condition. The young papaya is calculated as vegetable which is not counted (50-100 excessive amounts per truck).
3. There is no grading at farmers and collectors levels. As long as not rotten, they take all sizes to be shipped to buyers in Jakarta.
4. The purchase price at the farmer’s level is determined by agreement between the Collector and Wholesaler in Kramatjati Market.

B. Suggested Solution

1. There needs the standard quality of papaya which is purchased by Collectors at farmers level. The traded papaya should be the best quality, so that the farmers receive higher price and reduce waste at the site receiving the goods in Jakarta (approximately 100 kg for each truck). Additional treatment should be applied at farmer’s level (i.e. fertilizing, fruit treatment, pest and parasite handling).

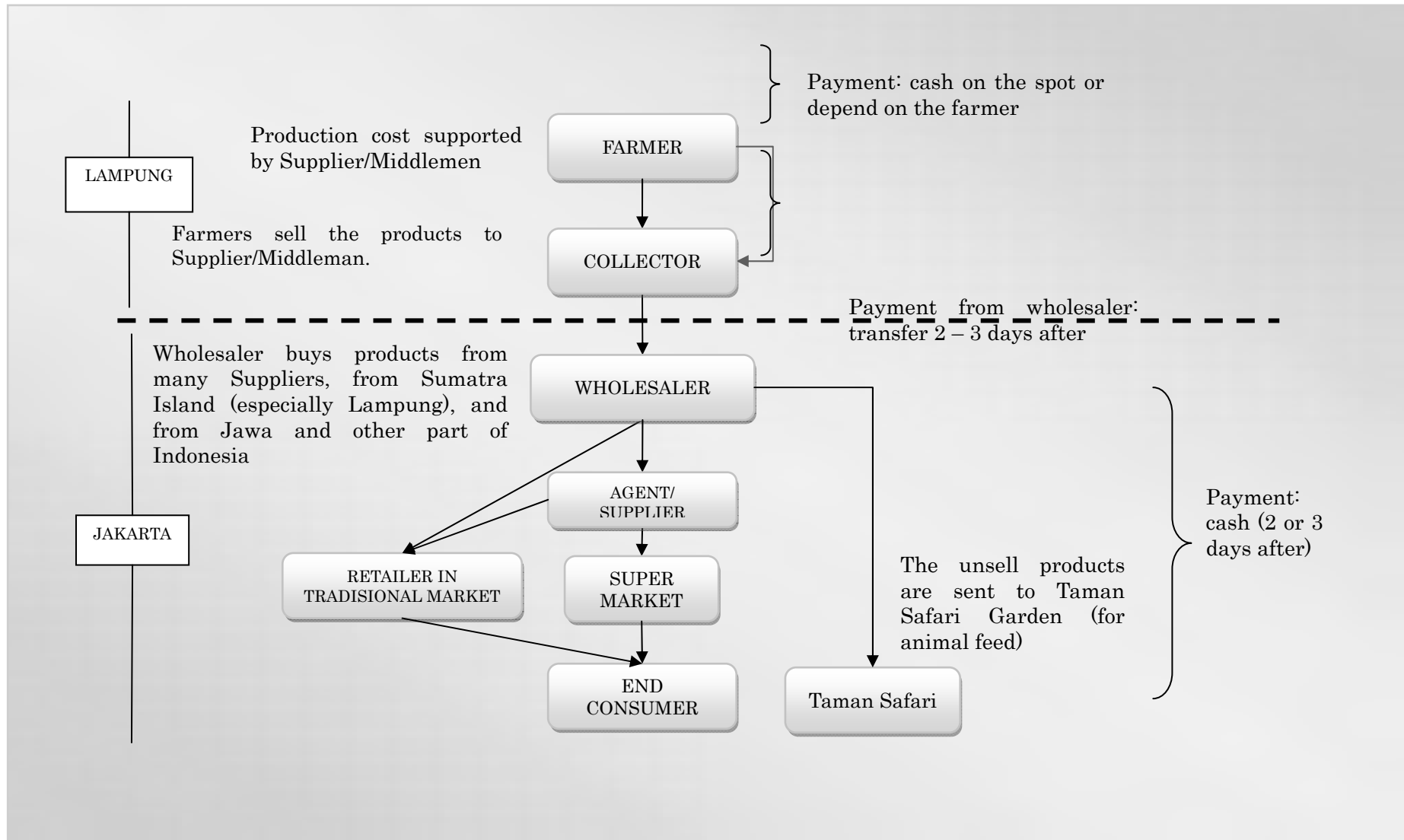


Figure ax 1.2.4 Value Chain of Papaya

Table ax 1.2.4 Papaya Price (Sell and Buy) from Farmer Gate to End Consumer in Jakarta

AREA	Value Chain Actors	Quality (Class) Rp/Kg						Added Value Each Class - Margin (Rp)/Kg			Packaging	Description
		A		B		C		A	B	C		
		Buy	Sell	Buy	Sell	Buy	Sell					
LAMPUNG	Farmer	-	1100	-	1100	-	1100	-	-	-	none	Farmers sell the product without any class (no sorting)
	Sub-Collector	-	-	-	-	-	-	-	-	-	none	No Agent in case of Papaya (farmer directly sell to Supplier)
	Collector	1100	1700	1100	1700	1100	1700	600	600	600	none	Supplier sell to the wholesaler also no sorting
JAKARTA	Wholesaler (Kramatjati)	1700	2500	1700	2000	0	600	800	300	600	none	Sorting into 3 class (A, B, C). Sorting is conducted by his Agent/middlemen before papaya entering his stall. The price for class C is Rp.600 sold to end consumer (individual, estate or for animal feed-zoo). Class C is Rest product (small number), because of damage, time length (perishable). Basically, the wholesaler sell RP.600 when he has already got enough profit totally. They sell in to the Taman Safary for feeding animal.
	Supplier	2500	3000	-	-	-	-	500	-	-	none	Agent/middlemen only sell the A class; Papaya class B and C goes to owner (wholesaler)
	Retailer	3000	5000	-	4000	600	2500	2000	-	1900	none	Retailer buy papaya into 2 type, class A and class C. Then Retailer sort it to class A, B and C.
	Supermarket	3500	6500	-	-	-	-	3000	-	-	none	Condidential price,
	End Consumer	5000	0	4000	-	-	-	-	-	-	none	End Consumer: Individual,
	TOTAL							6900	900	2100	0	

Remarks:

A Best quality: size bigger, no damage, mostly above 30%

B Medium quality

C Lowest quality: broken, small size, damage

ACTORS	ANNUAL (TRADE)	
	VOLUME (TON)	VALUE (RP) *MILLION
Supplier (Distributor to Jakarta)	474.5	806
Wholesaler (Keramat Jati)	150	3000

(3) Value Chain of Watermelon

The condition of watermelon production is a bit different with other agriculture product. In watermelon case, middlemen (supplier) invest money as production capital to the farmer. For 1 ha land to plant watermelon, it need RP 2 - 3 million for renting the land, and about RP 20 million of production cost. Detail production cost for 1 ha watermelon farm shown on table below.

Table ax 1.2.5 Cost Production For Watermelon Farmer

Description	Cost	Amount	Total
Renting land	3,000,000	1	3,000,000
labor	3,000,000	1	3,000,000
Production cost	20,000,000	1	20,000,000
TOTAL COST			26,000,000
Description	Price (/kg)	Amount (Kg)	
selling (average)	1,800	20,000	36,000,000
TOTAL REVENUE			36,000,000
TOTAL PROFIT			10,000,000

From the table, the total cost of production in 1 ha land is RP 26 million with revenue RP 40 million. Total profit for farmer is RP 10 million per ha per periode (3 moths). Basically, 1 farmer can farm 2 ha with 2 labor.

Table 6 shows the cost and profit of Watermelon. The calculation of cost per trip from Middlemen to Jakarta is shown in Table ax 1.2.6 and the value chain of watermelon is shown in Figure ax 1.2.5. The location of production center is in Punggur Village in Metro, Central Lampung District.

Table ax 1.2.6 Cost and Profit of Watermelon (Collector)

Activity	Total (Rp)	Per Kg (Rp / Kg)	Description
Watermelon price	12,000,000	1,800	Capacity 6000 Kgs, Selling price (average) in Kramatjati is RP 2,500,-/kg. Margin per kg RP 2,500,- Rp.2,083 =RP.417,-/kg.
Harvest to uploading to truck	200,000	33	
Transport cost to Kramatjati	1,500,000	250	
TOTAL	13,700,000	2,083	

Table 6 shows the the profit of Watermelon per Kg is low (just RP 417/Kgs), which means each trip to Keramat Jati will give RP 2,5 Million profit. The additional revenue that received by supplier (middlemen) not only from trading, but also margegin they got from froviding the means of production (fertilizer, watering and other expense).

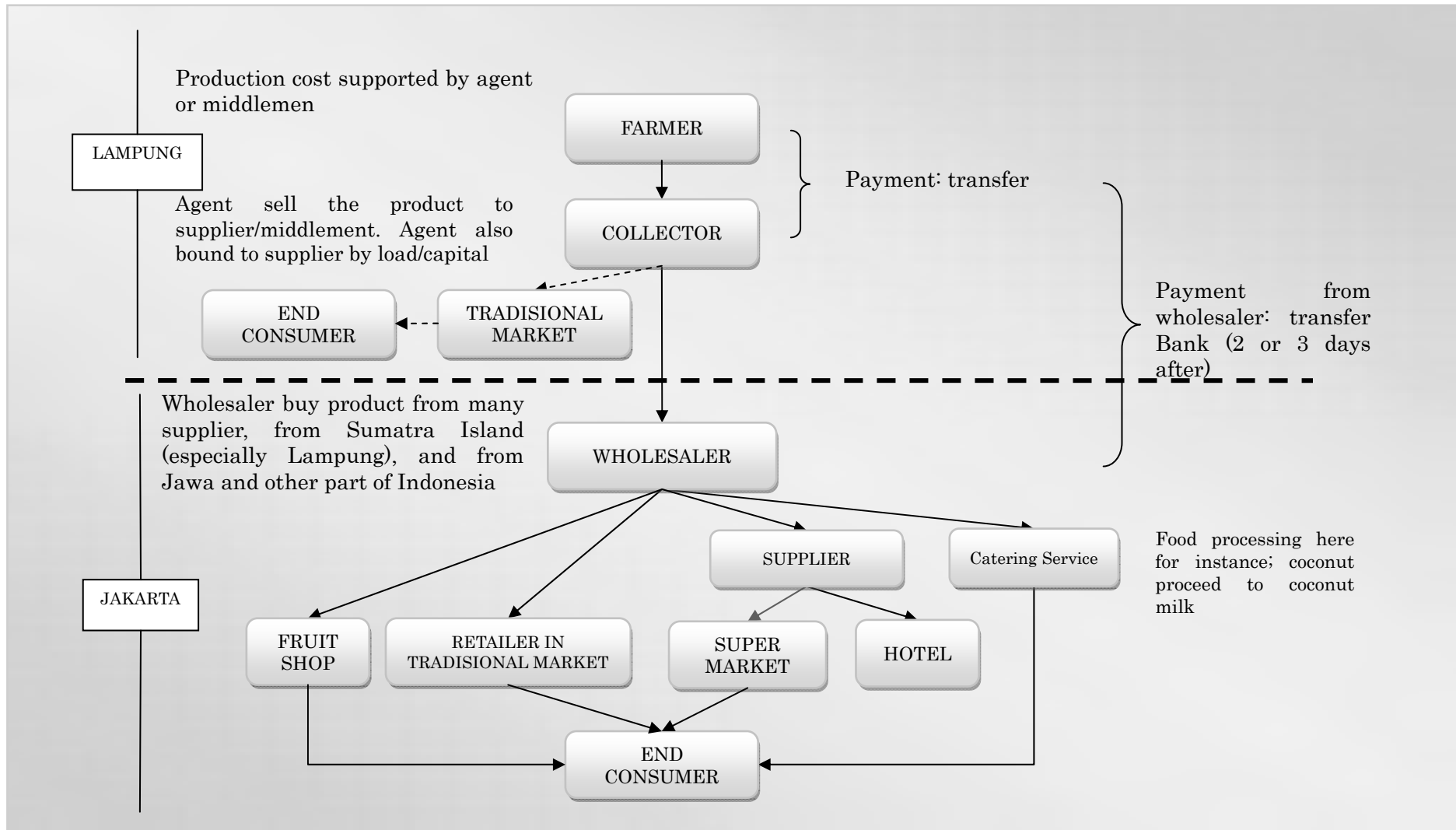


Figure ax 1.2.5 Value Chain of Watermelon

Table ax 1.2.7 Watermelon Price (Sell and Buy) from Farmer Gate to End Consumer in Jakarta

AREA	Value Chain Actors	Variety (Class) RP/Kg										Added Value Each Class - Margin (RP)/Kg					Packaging	Description
		Red watermelon with seed (A)		Red watermelon without seed (B)		Yellow watermelon without seed (C)		Watermelon (Baby) (D)		Long Watermelon (E)		A	B	C	D	E		
		Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell							
LAMPUNG	Farmer	-	-	-	2000	-	2000	-	-	-	2000	-	-	-	-	-	None	Farmer sell the product without any class (no sorting)
	Collector	-	-	2000	2500	2000	2500	-	-	-	-	-	100	-	-	-	None	Suppliers sell to the wholesaler also no sorting
JAKARTA	Wholesaler (Kramatjati)	1200	1700	2500	3000	2500	3500	2500	3500	2000	2500	500	600	500	1000	500	None	Wholesaler buy watermelon also from other collector in Lampung or outside Lampung
	supplier in Kramatjati	-	-	3000	4000	3800	5000	-	-	-	-	-	1000	-	-	-	None	Supplier usually sort the product and buy only high quality. Supplier sell the watermelon to supermarket
	Retailer	1700	3500	2000	4000	3500	5000	3500	4500	2500	4000	1800	2000	1500	1000	1500	None	Retailer on the local market
	Supermarket	-	-	4000	6500	4500	7000	-	-	-	-	-	2500	-	-	-	None	
	Fruit Shop	2000	4000	2500	5000	4000	5500	3500	5500	2500	5000	2000	2500	2500	2000	2500	None	
	End Consumer	4500	-	5000	-	6000	-	6000	-	5500	-	-	-	-	-	-	-	None
	TOTAL											4300	8700	4500	3000	4500		

ACTORS	ANNUAL (TRADE)	
	VOLUME (TON)	VALUE (RP) *MILLION
Supplier (Distributor to Jakarta)	1728	1720
Wholesaler (Keramat Jati)	1350	2586

(4) Value Chain of Coconut

In coconut product, Farmer and Agent or Middlemen have no contract. The coconut trading in farmers level is not bound to loan. Farmers can choose the Middleman who offer the better price. There are 2 grades of coconut in Lampung, grade A and B. Grade A coconut consist of 2 coconuts. They call it “gandeng” in Bahasa (1 gandeng = 2 coconuts grade A), about 1 to 1.2 kg weight for each coconut. The grade B is below of 1 kg per coconut and consist of 3 or more coconuts, approximately 0.8 kg or lighter each. In Lampung, the Middlemen only sell grade A coconut to Jakarta (Kramatjati). They proceed the grade B coconut to be “copra” as the material to make cooking oil.

In Kramatjati, Grade A coconut is graded again in A and B based on the size. Grade A with more than 1 kg and grade B below 1 kg. This is caused by the depreciation of the weight due to time duration both before arrived in Kramatjati and in Kramatjati before sold.

The calculation of cost per trip from Coconut to Jakarta is shown in Table ax 1.2.8 and the value chain of coconut is shown in Figure ax 1.2.6.

Table ax 1.2.8 Cost and Profit of Coconut (Collector)

Activity	Total (Rp)	Per Kg (Rp / Kg)	Description
Coconut price	6,000,000	1,000	Capacity 6000 Kgs, Selling price in Kramatjati is RP 1.700,-/kg. Margin per kg RP 2.100,- Rp.1.283,- =RP 817,-/kg
Harvest to uploading to truck	200,000	33	
Transport cost to Kramatjati	1,500,000	250	
TOTAL	7,700,000	1,283	

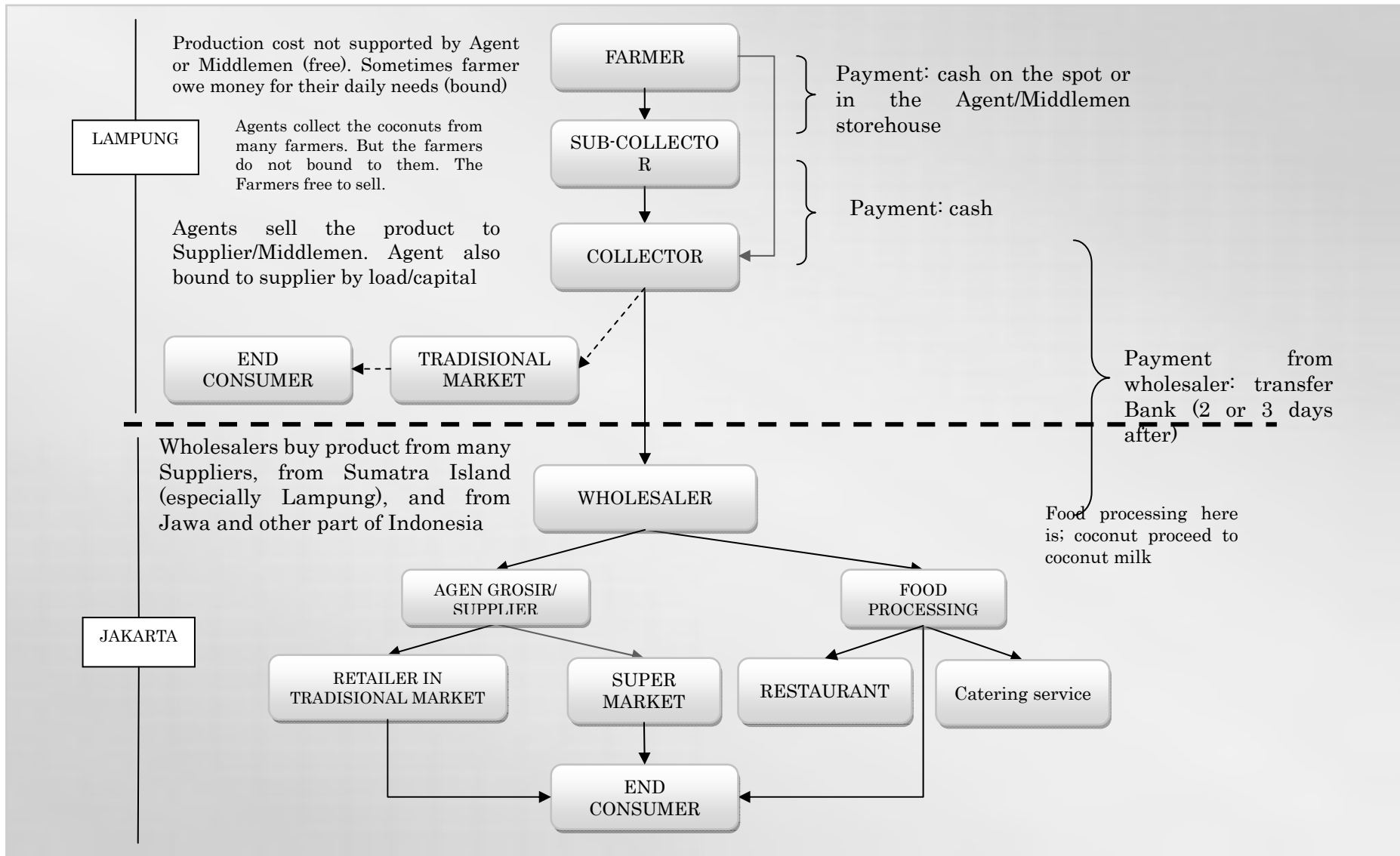


Figure ax 1.2.6 Value Chain of Coconut

Table ax 1.2.9 Coconut Price (Sell and Buy) from Farmer Gate to End Consumer in Jakarta

AREA	Value Chain Actors	Quality (Class) RP/Kg				Added Value Each Class - Margin (RP)/Kg		Packaging	Description
		A		B		A	B		
		Buy	Sell	Buy	Sell				
LAMPUNG	Farmer	-	500	-	500	500	500	None	Farmers sell the product without any class (no sorting)
	Sub-collector	500	1000	-	-	500	-	None	No Agent in case of Coconut (Farmers sell to Supplier directly)
	Collector	1000	2100	-	-	1100	-	None	Suppliers sell to the Wholesaler only in grade A with approximately 1 - 1.2 Kgs per coconut. Grade A in Lampung is different with grade A in Kramatjati
JAKARTA	Wholesaler (Kramatjati)	2100	2500	1500	2000	400	500	None	In wholesaler Kramatjati, grade A coconut which is delivered by Supplier in Lampung graded again into A and B.
	Supplier in Kramatjati	2500	2800	2000	2200	300	200	None	Agent is the person that have responsibility to unload and grade the coconut. Agent also sell coconut to various buyer in Keramat Jati.
	Retailer	2800	3500	2200	2500	700	300	None	Retailer sell in local market.
	Restaurant,cathering	2500	4000	2000	3000	1500	1000	None	Restaurants and cathering buy coconut is retailer or in Agent as their ingrediants.
	End Consumer	-	-	3000	-	-	-	-	End consumers can be individual, vegetable shop, stall and so on
	TOTAL					5000	-500		

Remarks:

A: Grade A with 1,2 Kg per coconut

B: grade B with weight below 1 Kg per coconut

ACTORS	ANNUAL (TRADE)	
	VOLUME (TON)	VALUE (RP) *MILLION
Collector	2184	2184
Wholesaler (Keramat Jati)	2184	4422

1.3 Features of Fruits and Vegetable Markets in Lampung Province

(1) Bandar Lampung

There are 14 markets in Bandar Lampung, and most of them are traditional markets. A number of 13 markets are managed by the local government and 1 market by the private sector (the Cooperatives, Industry and Trade Service of Lampung Province, 2006). A general description of markets in Bandar Lampung can be seen in the following table.

Table A general description of traditional markets in Bandar Lampung, 2005 (1/2)

No	Name of Market	District	Established in	Area (m ²)		Distance to Capital center (km)
				Land	Building	
1	Bawah	T.Karang Pusat	1998	11000	6000	0
2	Tugu	T. Karang Timur	1990	70599	4235	7
3	Way Halim	Tanjung Seneng	1983	10000	6000	20
4	Way Kandis	Tanjung Seneng	1999	5000	2000	30
5	Bambu Kuning	T. Karang Barat	1990	8840	4888	0
6	Baru	T. Karang Barat	1985	6765	4059	0
7	Pasir Gintung	T. Karang Pusat	1988	2222	1412	0
8	Tamin	T. Karang Barat	1990	12000	7200	5
9	Beringin Raya	Kemiling	1998	3000	910	25
10	Panjang	Panjang	1990	33700	20250	25
11	Kangkung	T. Betung Selatan	1990	15622	9373	15
12	Gudang Lelang	T. Betung Selatan	1980	1500	900	15
13	Cimeng	T. Betung Selatan	1990	4465	2679	13
14	Koga	Kedaton	1990	6950	3857	10

Source: "Location Survey and Study, Development of Agribusiness Terminal In the Lampung Province" (Regional Development Planning Agency of the Lampung Province And Cv. Exalindo Konsultan, 2008)

Table A general description of traditional markets in Bandar Lampung, 2005 (2/2)

No	Name of Market	No. of Utilities						
		Kiosks	Vendors	Shan-ties	Shops	Shop-houses	Mattress Vendors	Officer s
1	Bawah	180	139	75	23	30	0	6
2	Tugu	172	881	75	177	15	0	9
3	Way Halim	181	417	80	279	20	0	6
4	Way Kandis	36	107	40	0	0	0	6
5	Bambu Kuning	46	488	80	264	0	0	15
6	Baru	174	617	34	135	53	0	16
7	Pasir Gintung	116	521	137	51	26	0	11
8	Tamin	176	217	0	207	0	0	11
9	Beringin Raya	174	310	34	135	53	0	4
10	Panjang	308	524	120	67	200	0	13
11	Kangkung	150	338	0	104	0	0	8
12	Gudang Lelang	130	230	44	0	0	0	7
13	Cimeng	234	330	53	112	0	0	6
14	Koga	45	321	26	156	0	112	4

Source: "Location Survey and Study, Development of Agribusiness Terminal In the Lampung Province" (Regional Development Planning Agency of the Lampung Province And Cv. Exalindo Konsultan, 2008)

(2) Southern Lampung and Pesawaran Regencies

There are 13 markets in Southern Lampung and Pesawaran, most of which are traditional markets, and all are managed by the government.

Table A general description of traditional markets in Southern Lampung and Pesawaran, 2005 (1/2).

No	Name of Market	Village	District	Established in	Area (m2)	
					Land	Building
1	Kalianda	Kalianda	Kalianda	1985	12.000	2.363.5
2	Sidomulyo	Sidomulyo	Sidomulyo	1986	17.580	3.844
3	Bakauheni	Bakauheni	Penengahan	2001	12.000	2.350
4	Palas Jaya	Palas Jaya	Palas	2001	5.000	4.200
5	Katibung	Tanjung Ratu	Katibung	1998	7.100	3.000
6	Natar	Natar	Natar	1992	7.256	3.182
7	Kedondong	Kedondong	Kedondong	1997	8.120	3.859
8	Tegineneng	Trimulyo	Tegineneng	2002	10.000	4.100
9	Jati Agung	Margodadi	Jati Agung	2004	10.000	4.050
10	Rawa Selapan	Rawa Selapan	Candipuro	1997	7.500	3.500
11	Punduh Pidada	Maja	Punduh Pidada	2005	10.000	4.000
12	Padang Cermin	Padang Cermin	Padang Cermin	2001	1.005	750
13	Gedong Tataan	Bogorejo	Gedong Tataan	1994	10.310	2.432

Table A general description of traditional markets in Southern Lampung and Pesawaran, 2005 (2/2)

No	Name of Market	No. of Utilities								Distance to Capital center (km)
		Kiosks	Vendors	Shanties	Shops	Shop houses	Mattress Vendors	Galleries	Officers	
1	Kalianda	69	325	0	72	0	195	0	7	1
2	Sidomulyo	75	345	0	70	0	210	0	9	17
3	Bakauheni	65	295	0	70	0	185	0	8	34
4	Palas Jaya	35	170	0	38	0	99	0	6	25
5	Katibung	49	195	0	48	0	121	0	7	30
6	Natar	50	200	0	51	0	125	0	6	81
7	Kedondong	60	240	0	62	0	130	0	6	90
8	Tegineneng	36	160	0	35	0	95	0	7	83
9	Jati Agung	32	141	0	34	0	91	0	7	45
10	Rawa Selapan	56	215	0	59	0	124	0	8	35
11	Punduh Pidada	30	130	0	30	0	90	0	7	91
12	Padang Cermin	6	25	0	7	0	18	0	6	82
13	Gedong Tataan	16	70	0	17	0	43	0	6	85

(3) Eastern Lampung Regency

There are 8 markets in Eastern Lampung, most of which are traditional markets, and all are managed by the government.

Table A general description of traditional markets in Eastern Lampung, 2005 (1/2)

No	Name of Market	District	Established in	Area (m2)		Distance to Capital center (km)
				Land	Building	
1	Way Jepara	Way Jepara	1981	20.000	17.500	30
2	Sekampung	Sekampung	1982	27.243	16.500	28
3	Purbolinggo	Purbolinggo	1982	25.400	14.500	30
4	Rajabasa Lama	Rajabasa Lama	1997	7.620	5.715	35
5	Raman Utara	Raman Utara	1983	26.550	18.000	40
6	Pekalongan	Pekalongan	1983	10.140	7.700	22
7	Sukadana	Sukadana	1982	9.120	6.950	0
8	Lab. Maringgai	Lab. Maringgai	1982	10.000	7.800	60

Table A general description of traditional markets in Eastern Lampung, 2005 (2/2)

No	Name of Market	No. of Utilities						
		Kiosks	Vendors	Shan-ties	Shops	Shop-houses	Mattress Vendors	Officer s
1	Way Jepara	130	1.000	695	144	22	110	8
2	Sekampung	72	520	160	128	22	150	7
3	Purbolinggo	142	410	111	65	0	108	6
4	Rajabasa Lama	191	300	30	16	0	100	9
5	Raman Utara	72	210	41	16	0	105	6
6	Pekalongan	128	440	124	16	0	195	7
7	Sukadana	90	250	104	26	0	60	7
8	Lab. Maringgai	66	160	60	46	0	0	6

(4) Metro City

There are 11 markets in Metro, most of which are traditional markets, and all are managed by the government. These markets have great potentials for being developed into modern markets, because products from areas around Metro are sent to these markets before being distributed in Bandar Lampung.

Table A general description of traditional markets in Metro, 2005 (1/2)

No	Name of Market	District	Established in	Area (m2)		No. of Utilities	
				Land	Building	Kiosks	Ven-dors
1	Ruko Bertingkat	Metro Pusat	1980	1500	1116	0	93
2	Shopping Center	Metro Pusat	1980	6640	4980	5	312
3	Kopindo	Metro Pusat	1990	4500	3360	111	280
4	Cindrawasih	Metro Pusat	1996	44640	3720	25	310
5	Nuban Ria	Metro Pusat	1990	2880	240	0	20
6	Terminal Kota	Metro Pusat	1990	4608	384	0	32
7	Sumur Bandung	Metro Pusat	1989	146400	12200	0	109
8	Tejo Agung	Metro Pusat	2000	21600	1800	63	150
9	Margorejo	Metro Utara	2003	24480	2040	30	170
10	Sumbersari	Metro Selatan	1996	16704	1392	34	116
11	Ganjar Agung	Metro Barat	2003	4320	360	10	30

Table A general description of traditional markets in Metro, 2005 (2/2)

No	Name of Market	No. of Utilities					Distance to Capital center (km)
		Shanties	Shops	Shop-houses	Mattress Vendors	Officers	
1	Ruko Bertingkat	0	0	93	0	2	0
2	Shopping Center	0	312	0	0	7	0
3	Kopindo	85	213	24	0	5	0
4	Cindrawasih	244	24	0	17	9	0
5	Nuban Ria	0	21	0	0	4	0
6	Terminal Kota	0	40	0	0	6	0
7	Sumur Bandung	43	0	66	0	15	0
8	Tejo Agung	63	24	0	0	3	7
9	Margorejo	30	0	0	0	2	15
10	Sumbersari	31	60	0	20	4	12
11	Ganjar Agung	20	0	0	0	2	10

(5) Central Lampung Regency

Every district in the Central Lampung Regency has at least one traditional market, but only five of those markets are managed by the government. Out of these five, Bandar Jaya Market is the one with the potential for being developed into a modern market, due to its fairly strategic location: the Sumatra trans-province road runs through it, and this results in good product accessibility.

Table A general description of traditional markets in Central Lampung, 2005 (1/2)

No	Name of Market	District	Established in	Area (m2)	
				Land	Building
1	Bandar Jaya	Terbanggi Besar	1993	14600	1300
2	Tanggulangin	Punggur	1995	44400	3700
3	Kota Gajah	Kota Gajah	1995	33500	2800
4	Seputih Mataram	Seputih Mataram	1995	15000	1250
5	Rumbia	Rumbia	1995	14000	1150

Table A general description of traditional markets in Central Lampung, 2005 (2/2)

No	Name of Market	No. of Utilities							Distance to Capital center (km)
		Kiosks	Vendors	Shanties	Shops	Shop-houses	Mattress Vendors	Officers	
1	Bandar Jaya	30	180	35	105	28	15	10	6
2	Tanggulangin	90	220	116	312	22	32	19	14
3	Kota Gajah	68	250	88	235	15	24	15	15
4	Seputih Mataram	30	170	39	105	0	11	7	25
5	Rumbia	28	165	40	95	0	10	6	50

(6) Tulang Bawang Regency

Every village in the Tulang Bawang Regency has a market that operates once a week (community market). Every district has traditional markets managed by the government and private sector. Five markets are managed by the government, and have the potential to be developed into modern markets.

Table A general description of traditional markets in Tulang Bawang, 2005 (1/2)

No	Name of Market	District	Established in	Area (m2)		Distance to Capital center (km)
				Land	Building	
1	Unit Dua	Menggala	1993	17000	12800	60
2	Menggala	Menggala	1995	7000	6140	0
3	Unit Enam	Banjar Agung	1995	6050	5700	100
4	Mesuji	Mesuji	1992	5400	4607	150
5	Rawa Jitu	Rawa Jitu	1995	7500	6250	120

Table A general description of traditional markets in Tulang Bawang, 2005 (2/2)

No	Name of Market	No. of Utilities						
		Kiosks	Vendors	Shanties	Shops	Shop-houses	Mattress Vendors	Officers
1	Unit Dua	480	800	130	33	30	127	21
2	Menggala	78	490	120	40	20	290	5
3	Unit Enam	32	245	106	30	15	61	4
4	Mesuji	29	360	331	34	26	29	3
5	Rawa Jitu	82	510	125	55	23	295	7

(7) Northern Lampung Regency

Every village in the Northern Lampung Regency has a market that operates once a week (community market). Every district has traditional markets managed by the government and private sector. Three markets are managed by the government, and have the potential to be developed into modern markets.

Table A general description of traditional markets in Northern Lampung, 2005 (1/2)

No	Name of Market	District	Established in	Area (m2)		Distance to Capital center (km)
				Land	Building	
1	Sentral	Kota Bumi Selatan	1990	20000	14000	0
2	Pagi	Kota Bumi	1992	15000	13500	0
3	Bukit Kemuning	Bukit Kemuning	1995	20000	15000	60

Table A general description of traditional markets in Northern Lampung, 2005 (2/2)

No	Name of Market	No. of Utilities						Officers
		Kiosks	Vendors	Shanties	Shops	Shop-houses	Mattress Vendors	
1	Sentral	79	500	350	203	45	181	9
2	Pagi	58	200	50	58	15	77	9
3	Bukit Kemuning	85	400	205	195	20	175	8

(8) Way Kanan Regency

Every village in the Way Kanan Regency has a market that operates once a week (community market). Every district has traditional markets managed by the government and private sector. Two markets are managed by the government, and have the potential to be developed into modern markets.

Table A general description of traditional markets in Way Kanan, 2005 (1/2)

No	Name of Market	District	Established in	Area (m2)	
				Land	Building
1	Pagi Banjit	Banjit	2004	7500	5650
2	Inpres Baradatu	Baradatu	2002	5000	3800

Table A general description of traditional markets in Way Kanan, 2005 (2/2)

No	Name of Market	No. of Utilities						Distance to Capital center (km)	
		Kiosks	Vendors	Shanties	Shops	Shop-houses	Mattress Vendors		Officers
1	Pagi Banjit	80	109	26	25	12	56	1	100
2	Inpres Baradatu	25	55	24	20	8	25	1	50

(9) Western Lampung Regency

Every village in the Western Lampung Regency has a market that operates once a week (community market). Every district has traditional markets managed by the government and private sector. Five of these markets are managed by the government, and have the potential to be developed into modern markets in Western Lampung.

Table A general description of traditional markets in Western Lampung, 2005 (1/2)

No	Name of Market	District	Established in	Area (m2)		No. of Utilities	
				Land	Building	Kiosks	Vendors
1	Pasar Krui	Pesisir Tengah	2001	15000	10000	80	450
2	Pasar Liwa	Balik Bukit	2000	20000	15000	75	350
3	Sumber Jaya	Sumber Jaya	2001	10000	7500	60	212
4	Sekincau	Sekincau	2002	7500	6000	25	135
5	Fajar Bulan	Way Tenong	2002	8000	6000	30	175

Table A general description of traditional markets in Western Lampung, 2005 (2/2)

No	Name of Market	No. of Utilities					Distance to Capital center (km)
		Kiosks	Shops	Shop-houses	Mattress Vendors	Officers	
1	Pasar Krui	130	25	30	250	7	75
2	Pasar Liwa	100	50	15	150	9	0
3	Sumber Jaya	75	15	10	75	5	150
4	Sekincau	60	10	5	50	5	75
5	Fajar Bulan	80	15	0	65	5	100

(10) Tanggamus Regency

There are 14 markets in Tanggamus Regency with the major number classified into traditional markets and managed by the government.

Table Traditional market general description in Tanggamus in year 2005

No	Name of Market	District	Area (m ²)	
			Land	Building
1	Wonosobo	Wonosobo	7500	5625
2	Pangkal	Wonosobo	7250	5500
3	Kota Agung	Kota Agung	10000	7500
4	Purwodadi	Talang Padang	7500	5750
5	Talang Padang	Talang Padang	10000	7500
6	Pagelaran	Pagelarn	5000	4500
7	Pringsewu	Pringsewu	7500	6000
8	Sukoharjo	Sukoharjo	6800	6000
9	Banyumas	Sukoharjo	6950	6500
10	Adiluwih	Sukoharjo	7000	6000
11	Gadingrejo	Gadingrejo	10000	8000
12	Pardasuka	Pardasuka	2500	2100
13	Pasar Baru	Pardasuka	3000	2500
14	Margomulyo	Pardasuka	3000	2250

Table Condition of Markets

No	Name of Market	Number of Facilities				Distance to Center of Capital
		Trader	Shop	Laid Out Mat for Goods	Officer	
1	Pasar Krui	315	53	30	9	6
2	Pasar Liwa	423	43	28	10	7
3	Sumber Jaya	150	187	249	8	0
4	Sekincau	116	93	225	9	20
5	Fajar Bulan	35	367	120	7	45
6	Pagelaran (PGL)	170	88	55	7	50
7	Pringsewu (PSW)	39	203	97	8	60
8	Sukoharjo (SKJ)	100	15	85	7	65
9	Banyumas (BYS)	105	17	89	7	65
10	Adiluwih (ALW)	110	23	90	9	65
11	Gadingrejo (GRJ)	476	54	34	9	70
12	Pardasuka (PDS)	30	30	35	6	70
13	Pasar Baru (PSB)	35	35	40	6	70
14	Margomulyo (MGY)	34	31	35	5	69

1.4 Needs Assessment Survey on Stakeholders for New TA in Lampung Province

(1) Methodology of Needs Assessment Survey

The Needs Assessment Survey for the New TA was organized and targeted to traders in Bandar Lampung as well as at Kramat Jati in DKI Jakarta and Tana Tinggi Central Markets in Banten. The traders include collectors, wholesalers, suppliers, retailers, international traders, food professors, hotels, restaurants, supermarkets as well as farmers and farmers groups.

The methodology of the survey is to interview the stakeholders in Lampung and Jakarta in order to identify the needs and expectation of the New TA in Lampung. The respondents have been chosen based on top sales that are larger than others. The survey has been carried out from May 10 – May 20, 2011. The sampling design of this agricultural marketing system survey can be seen in the table below. “Collector” means the one who collects the agricultural products from farmers, and in certain cases they are designated by middlemen.

“Suppliers” trade as wholesalers, but also to sell their products to bulk buyers, such as hotel, restaurant, supermarkets, etc. and deliver to them in this survey. We distinguish “supplier” from “wholesaler” who sells products mainly to retailers who come and buy in wholesale markets.

Table Sampling Design of Agricultural Marketing System Survey

Place	No.	Targets	Total
Lampung	1	Farmers	20
	2	Farmers' Groups	8
	3	Wholesalers in Tamin & Gintung Markets of Bandar Lampung	20
	4	Wholesalers in other 11 Markets of Bandar Lampung	22
	5	Middlemen	30
	6	Suppliers	10
	7	Supermarkets	5
	8	Hotels	10
	9	Restaurants	10
	10	Food Processers	10
	11	Pasar in Tamin & Gintung Markets of Bandar Lampung	21
	12	International Trade	10
	13	Consumers	-
	14	Estate Wholesalers	6
	15	Transporters(truck drivers) from Sumatra to Jawa at Bakauheni Port	
		Subtotal in Lampung	182
Kuramat Jati & Tana Tinggi	1	Wholesalers in Kramat Jati Central Market and Tana Tinggi Central Markets	20
	2	Brokers	
	3	Supermarkets	4
	4	Hotels	9
	5	Restaurants	9
	6	Food Plants	2
	7	Suppliers	21
		Subtotal around Jakarta	63
		Total	245

(2) Summary

The Needs Assessment shows that 15 out of 41 wholesalers and suppliers around Jakarta are positive to rent space in the New TA. The one who trades chili targets to make profits from the differences of market prices between Sumatra and Jawa. Other trader who has a relative in Lampung wishes to penetrate into the market of Bandar Lampung. But there are just a few respondents to have a clear vision of trade at the New TA. Most of them answered that they are going to rent space in the New TA if it is profitable.

There are 3 supermarkets that are interested in participating in the New TA out of 3.

A number of 60% of international traders in Lampung are also interested to participate in the New TA as well as 40% of processors.

A number of 29 wholesalers in Bandar Lampung out of 48 have the intension to participate in the

New TA; however 73.3% of them prefer Natar to Penengahan. Only 5.5% of all respondents are positive with Penengahan.

(3) Needs to Rent in the New TA.

Among the total samples of 245, 41.6% are positive to rent space in the New TA and 40.8% are negative.

Among the total traders in Lampung, 182 samples, 45.6% are positive to rent the space in the New TA, 36.3% are negative for to rent, “unknown” are 18.1%. 60.4% of wholesalers, 70.0% of collectors, 80% of suppliers and 60.0% of International traders are positive to rent space in the New TA. But only 14.3% of farmers or farmers groups, 20.0% of hotels, 20.0% of restaurants and 20.0% of supermarkets are positive to rent the space in the New TA

Among the total traders in Kramat Jati and Tanah Tinggi, 63, 30.2% are positive to rent space in the New TA and 54.0% are negative. 35.5% of wholesalers are positive to rent space in the New TA as well as 75% of supermarkets, 3 out of 4 in Jakarta.

All of those answers are not connected to the location to establish the New TA, so in the case of Penengahan, the positive traders may be declining.

The positive answers in Lampung have the following conditions, such as “If good prospect of business”, “If place is cheap rent or buy”, “If a strategic location, not far from Bandar Lampung”, “If smooth transportation”, “Could be directly dealing with buyers and sellers”, ”Able to expand the business”, and so on.

The reasons to be negative in Lampung are as follows:

- Fearing loss of existing customers
- Does not have the capital to hire
- Location of TA is far away, etc.

The positive answers around Jakarta have the following comments, such as “If the system is running well”, “If a more advantageous”, “If there are chances”, “If already crowded culprit”, “If full amenities”, and so on.

The reasons to be negative in Lampung are as follows:

- Far from Jakarta
- Difficult to control the goods and labor
- Need additional costs for transportation and a good fleet
- Need additional manpower
- Not having enough capital, etc.

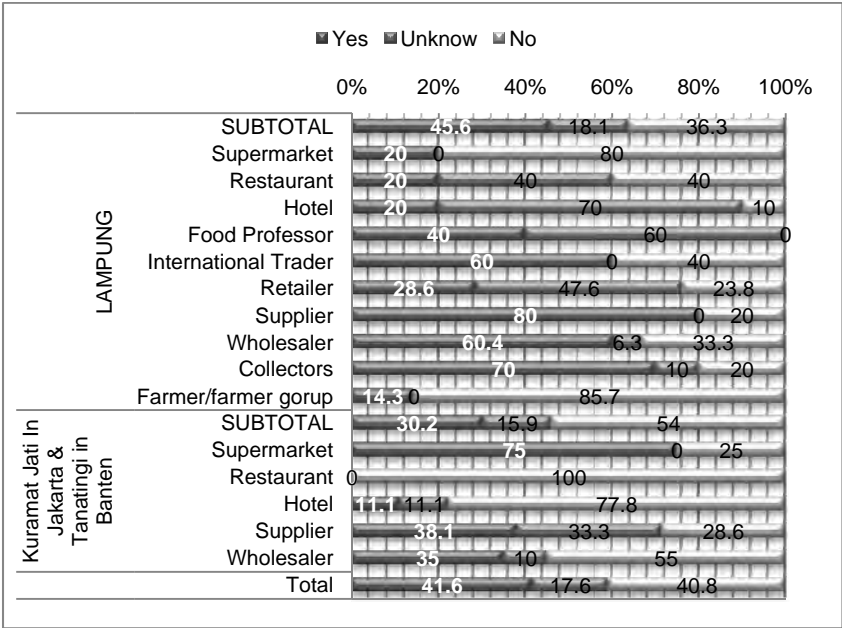


Figure Needs to Rent New TA

(4) Needs to trade with New TA

A total of 53.1% of respondents are positive to buy from the New TA and 36.7% are negative.

In Lampung 57.7% of traders are going to buy products from the New TA and 33.5% are negative; however this percentage includes farmers/farmers' groups who are all negative. A number of 56.3% of wholesalers, 50.0% of collectors and 52.4% of retailers, are positive to buy from the New TA. All of suppliers, food processors, hotel and supermarkets are positive as well as 80% of international traders, 90% of restaurants are positive.

The reasons and comments to be positive to buy at New TA are as follows, in Lampung;

- If there are farmers selling directly, the price will be cheap
- If the price is cheaper
- If a more advantageous
- If there are items needed
- If the quality of good stuff, etc

The reasons and comments to be negative to buy at New TA are as follows, in Lampung;

- Must build relationships and new customer
- The location far outside the city
- Hard transportation and be a cost burden
- Having already bought goods from the customers/farmers directly
- There is already a supplier who is the customer's own, etc.

Around Jakarta, 39.7% of traders are positive to buy from the New TA and 46.0% are negative but 100 % of supermarkets as well as 55.6% of restaurants are positive.

The reasons and comments to be positive to buy at the New TA are as follows, around Jakarta;

- If the goods are packed appropriately, e.g. using plastic
- Goods would be great
- If the TA is available a lot of goods at competitive prices, etc.

The reasons and comments to be negative to buy at the New TA are as follows, around Jakarta;

- There is already a subscription which became regular suppliers, etc.

A total of 48.2% of respondents are positive to sell at the New TA and 33.1% are negative.

In Lampung 52.7% of respondents are positive and 28.6% are negative. A number of 86.7% of collectors as well as 64.7 % of wholesalers are positive to sell at the New TA. A number of 80% of suppliers and 80% of international traders are positive, too.

The reasons and comments to be positive to sell at the New TA are as follows, in Lampung;

- If the place is good, will many potential buyers, large demand
- If a more comfortable place
- If a lower price
- It would shorten the marketing channels, higher selling prices
- If a promising new business opportunities, etc.

The reasons and comments to be negative to sell at the New TA are as follows, in Lampung;

- Requires large capital and fund
- Depending on the existing forms of cooperation
- Already have a subscription, feared loss, etc.

Around Jakarta 34.9% of respondents are positive to buy products at the New TA and 46.0% are negative. A number of 50.0% of wholesalers and 57.1% of suppliers are positive.

The reasons and comments to be positive to sell at the New TA are as follows, around Jakarta;

- If the market has been running
- If the sale price is good enough

- If many types and number of buyers so that competing, etc.

The reasons and comments to be negative to sell at the New TA are as follows, around Jakarta;

- Because the market in Jakarta is still large and potentially
- Difficult to control the goods due to distance
- Must bear the transportation cost, etc.

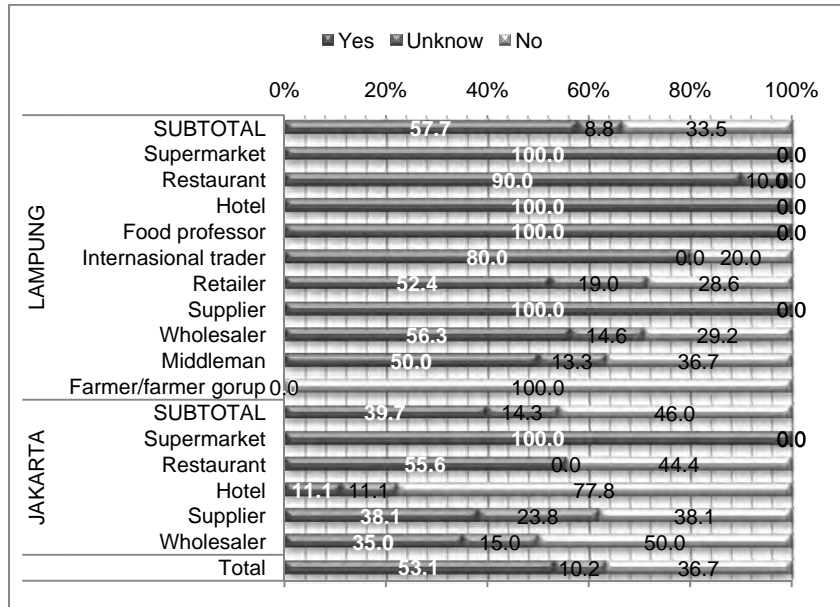


Figure Needs to Buy from New TA in Lampung

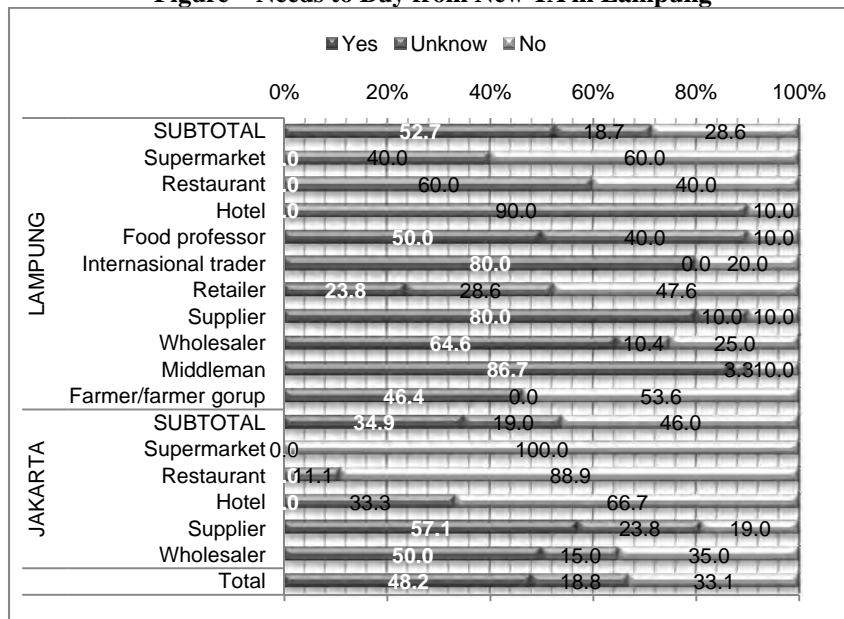


Figure Needs to sell to New TA in Lampung

(5) Needs for Information

A total of 82.0% of respondents needs information about the New TA, as well as 89.0% in Lampung and 60.3% around Jakarta.

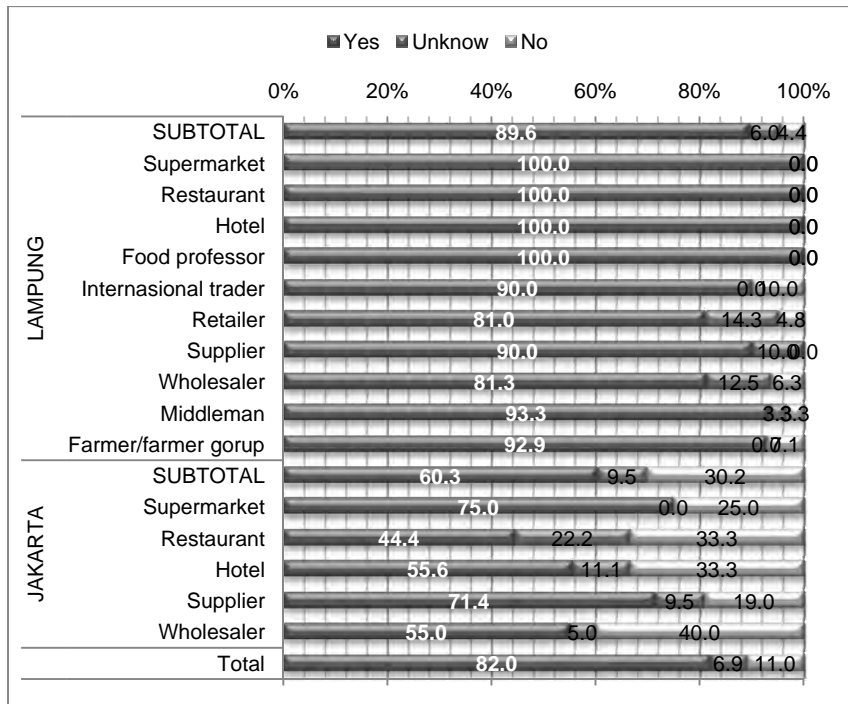


Figure Needs for Information

(6) Location for New TA

We asked the preferable location of the New TA to stakeholders in Lampung.

Out of 109 respondents, 64.2% supports to Natar for the New TA, 11.9% to Gedong, only 5.5% are positive to Penengahan.

64.2% of wholesalers are also supporting Natar, and on the other hand 4.2% is positive to Gedong. 10.4% are supporting Penengahan.

There is no retailer or supplier among respondents to support Penengahan as the New TA.

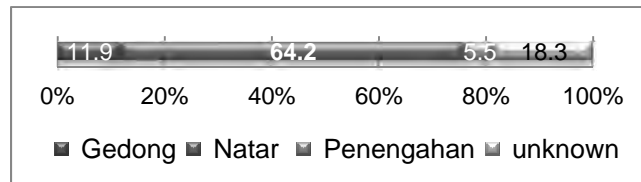


Figure Choice of Location by All Respondents

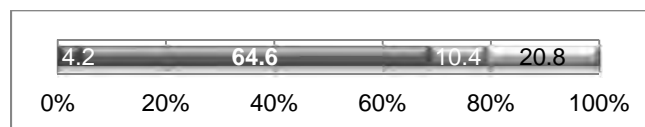


Figure Choice of Location by Wholesalers

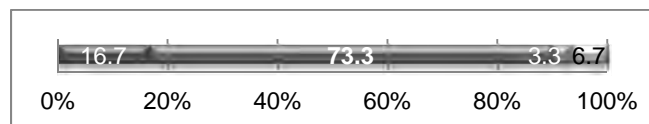


Figure Choice of Location by Collectors

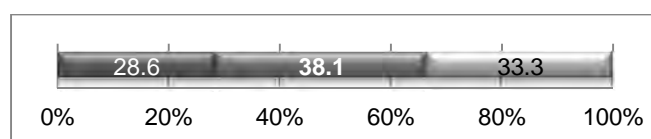


Figure Choice of Location by Retailers

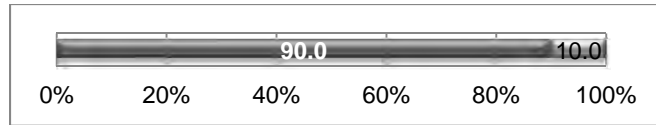


Figure Choice of Location by Suppliers

(7) Requirement of Qualities

Firstly, the Study Team expects the requirements for the quality of agricultural products around Jakarta could be higher than in Lampung. But the needs assessment shows us the stakeholders around Jakarta are more satisfied with the quality condition at present than in Lampung especially about the safety with organic and no pesticide.

A number of 65.1% of traders need no organic neither 65.1% “no pesticide” around Jakarta. However, DKI Jakarta is trying to control qualities of agricultural products, 71.4% of stakeholders are satisfied with the “same quality” and 28.6% said no need to improve. A number of 65.1% are satisfied with the “preferable size” of their products, 23.6% declared that they need not improve it. Also 49.2% of them need not improve “washed and cleaned”. Those factors are related with grading.

In Lampung, the demand to improve is higher than around Jakarta. 87.0% of them need to improve less bruise, while 80.5% need to improve “same quality” as well as 74.7% required to improve “equality of size”. Even about food safety 68.2% required “no pesticide” and 46.8% need more “organic”. A number of 46.8% need more “organic”.

In Kramat Jati as well as Tanatingi, the wholesalers are grading their goods by themselves to add value. That is why the requirements of qualities are not very high to compare in Lampung.

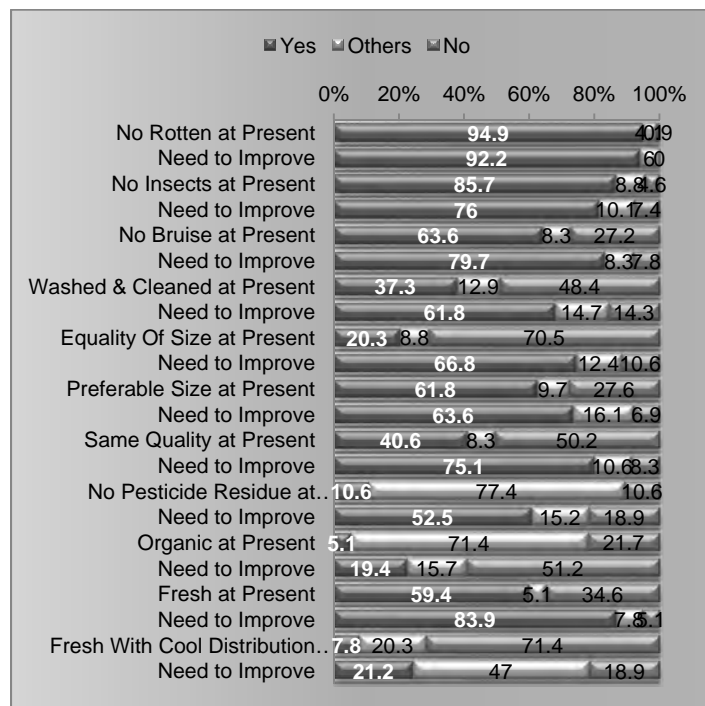


Figure Requirements by All Respondents

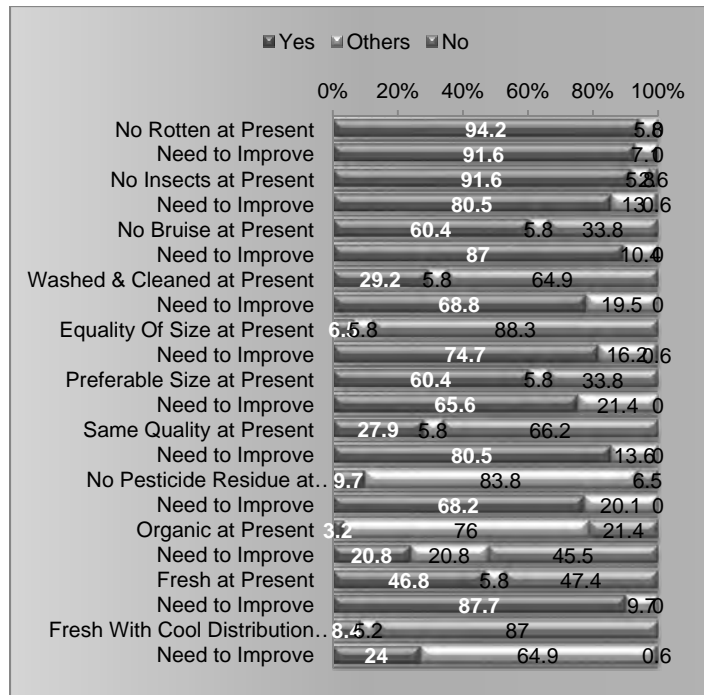


Figure Requirements by Stakeholders in Lampung

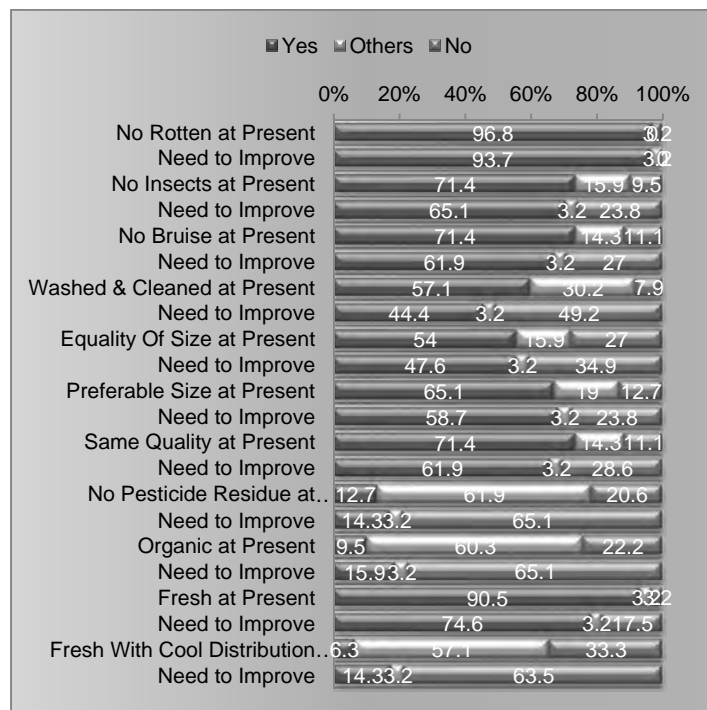


Figure Requirements by Stakeholders around Jakarta

irrigation and drainage.

Ground water table in the project site is stable in all season and high such as approximately 5m in depth from ground surface near the west boundary area and approximately 2.5 m near the east boundary area. It seems that the ground water flow down under sub soils of the undulated hilly slope of Mt. Raja Basa.

According to Geological Maps published by Geological Research and Development Center, Bandung, the project site is categorized as the volcanic deposit materials zone. Actually, the results of core boring survey shows appreciated evidence to match the characteristics of the zone.

(3) Sub-Contact Works on Topographic Survey and Geological and Soil Investigation

As for execution of topographic survey and geological and soil investigation, the works are undertaken by contractors due to time constraint of assignment of the Expert concerned.

For procurement of contractors on the each survey and/or investigation, selection of experienced contractors are carried out, referring to their work experience of the similar projects such as water resource development, irrigation development, investigation and analysis on geology.

After announcement and invitation to the candidates, explanation on scope of works, technical specifications and conditions of contract is executed.

Simple tender is opened, and candidate with the lowest offer price are selected. After successful negotiation on the offer price, contract award is issued to the successful contractor.

Though process mentioned above, PT. Wiratman & Associates is selected as contractor for both the survey and investigation. The JICA Team issued the Notice to Proceed and the contractor started the works.

Works of topographic survey finished on September 28, through field review and confirmation on draft topographic maps, and Geological and soil investigation finished on October 14 through evaluation of laboratory test.

The completion certificate of the works were respectively issued on October 10, 2011 for topographic survey and on October 15, 2011 for geological and soil investigation.

(4) Data Collection on the Other Fields of Nature Conditions

1) Rainfall

Rainfall data of Penengahan rainfall gauging station for 35 years from 1972 to 2006 are collected through Balai Besar Wilayah Sungai Mesuji - Sekampung PU.

2) Meteorological Data

Monthly meteorological data at Ladin Inten II Station for 6 years from 2006 to 2010 are collected through Climatology Office of Lampung Province. The Ladin Inten II Station is located near coast area of Bandar Lampung, and the data are temperature, rainfall, radiation, sunshine hours, relative humidity and wind velocity.

3) Seismic Data

Seismic code and standards of PU on design for building and other documents on earth quake are collected.

2.1 Topographic Survey on the New TA Site in Penengahan

2.1.1 Datum Points and Bench Marks for Topographic Survey

For topographic survey, bench marks of 2 nos. and support bench marks of 4 nos. are constructed in the project site as shown in the Topographic Map.

Coordinate of the bench mark such as latitude, longitude and altitude are transferred from bench marks of national geodetic grid shown below by GPS instrument. Since actual traverse and level surveys are not carried out between bench mark of the national grid and the bench mark installed in the Project site, the topographic map is prepared on bases of local coordinate and altitude.

- UTM, Zone 48 South
- Datum / Spheroid : WGS-84
- Central Meridian: 105° East
- Height Elevation in Ellipsoid WGS-84 Datum

(1) Coordinates (X,Y) ;

BM-01 NK; X = 578,193.000 m
Y = 9,361,216.000 m
BM-02 NK: X = 578,209.770 m
Y = 9,361,162.725 m

(2) Elevation (Z);

El. BM-01 NK = + 96.000 m

2.1.2 Allowable Error on Traverse and Level Survey

Closing error of traverse is 1/34,574, and level error of double track survey on traverse line is 5mm. These error are judged to be within allowable error, of which are required in the technical specifications of the contract document.

After adjustment of the each error, spot elevation survey of the each necessary point is carried out for preparation of topographic map. Therefore, it is judged that results of the topographic survey are appreciated and that topographic map is useful for planning and design of the Project.

2.1.3 Field Activities on Confirmation of Land Ownership in the Project Area

Prior to commencement of the field survey, in-charged government personnel (officers) of Lampung Province take socialization activities including field confirmation activities on boundary of landownership. In addition, the representative person pointed out by the Provincial Government, also attends field survey at the project site.

2.1.4 Evaluation on Survey Results

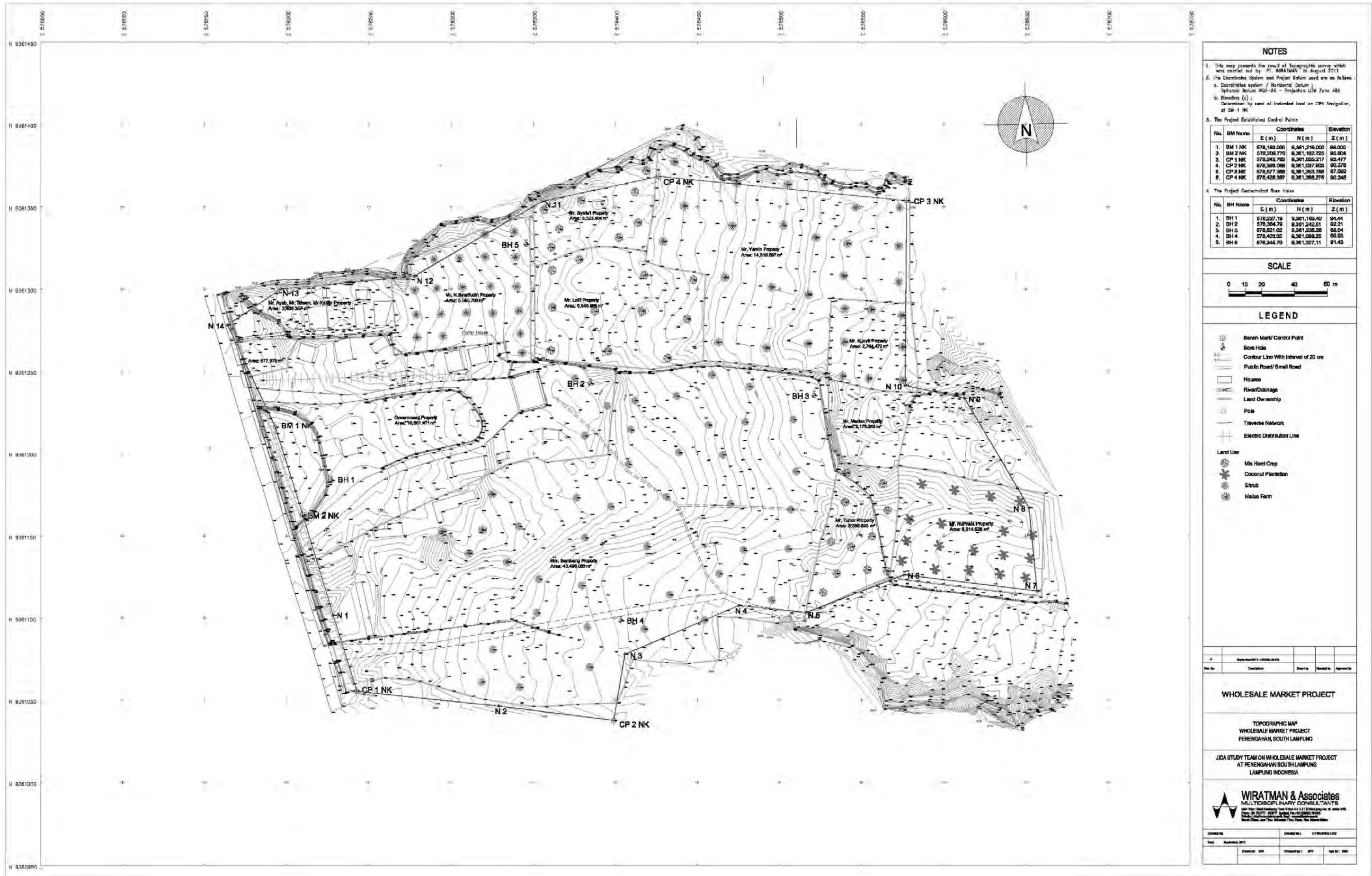
Topographic map shows contour line with an interval of 20 cm and other key items required, such as existing facilities and houses, small road and foot pass, electric distribution line, boundary of each land ownership, small stream and small canals and drains.

During mapping, field confirmation is also carried out, using draft map, and mapping activities are finalized. Therefore, the map is evaluated to have suitable quality for planning and design activities.

2.1.5 Present Land Use in the Project Site

Most of the project site, except for government land of the ex-load measurement facilities, is covered by bush, upland crop area and estate crop area, such as coconut, cacao, etc.

Figure ax 2.2 Topographic Survey Drawing



2.2 Geological and Soil Investigation on the New TA Site in Penengahan

2.2.1 Core Boring Investigation and In-situ Test

Core boring is carried out at the 5 points in the project site. The contractor carries out boring works with total 150 m in length consisting of 30 m in length at the each site, neglecting the requirement mentioned in the Technical Specifications of Contract Document. The boring length of over-boring is not accounted in the payment bill because of fault of the contractor. Actual total payment is done for only core boring cost of 130 m in length.

Core boring points are selected on and near central axis, such as axis of west to east and north to south to assume rough geological conditions of sub-soil layers as shown in the following figure.

During core drilling, standard penetration test (SPT) is also carries out with an interval of approximately 1.5 m of boring depth to obtain bearing capacity of the each soil layer (N-value). In addition, survey on ground water table is simultaneously carried out.

Boring core obtained by drilling is kept at the site, and soil sampling for laboratory test, such as undisturbed soil samples (silty soils and clayey soils) and disturbed soil samples (sandy soil) are also taken.

Geological conditions of sub-soil layers are roughly described below.

In top soil with depth of less than 2.5 m, major sub-soil layers are silty and sandy soil layers mixed with coarse sand and gravel. But, silt and clay soil layers are also found out.

Sub-soil layers with depth of more than 3 m, under top soil are dominantly consisted of silt to sand soil layers mixed with gravel and stone. Occasionally, thin silt soil layer and clay soil lay conglomerate each other (Refer to Figure ax 2.4 to 2.8)

According to standard penetration test (SPT) test result (N-value) at all bore holes, except for bore hole BH-3, silt and sand soil layers mixed with Andesite boulder are found out in 3 to 5 m in depth and approximately 10 m in depth. The soil layers have higher N-value of more than 40, but have thin thickness of 3 to 4 m only.

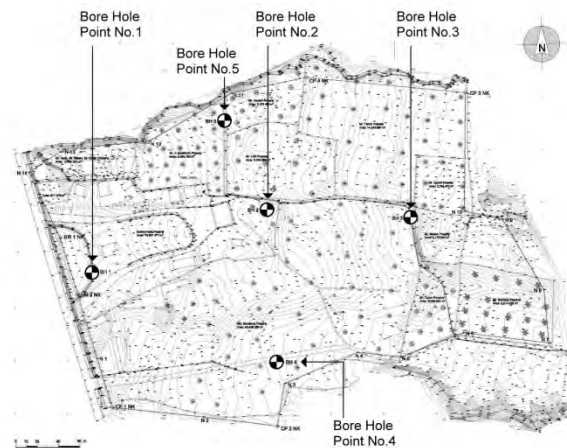
There is sandy soil layer mixed with silt in depth of approximately 15 to 18 m and other similar soil layer and sandy soil layer in depth of more than 20 m. N-value is more than 40 in the first silt-sandy soils and more than 50 in the second silt-sandy soil layer and sand soil layer.

As for the bore hole BH-3, there is silt soil layer mixed with sand and gravel with thickness of more than 10 m from the depth of 3 m, and the N-value of the silt soil layer is more than 50.

According to geological profile assumed based on the profile of bore holes (Refer to Figure ax 2.9 and 2.10), geological conditions of sub-soil layers in the project site is broadly divided into 4 layers.

The 1st layer is top soils. The 2nd layer is silty soil layer mixed with sand, gravel and clay, and the N-value of the 2nd layer is approximately 20. The 3rd layer ha sandy soil layer mixed with gravel, stone and silt, and the N-value is 20 to 50. The 4th layer is cemented soil layer with sandy silt, sands and gravel, and N-value is more than 50.

Ground water table of the bore hole ranges from 2.9 to 4.6 m from ground surface and hydraulic gradient from west to east.



Source: JICA Study Team

Figure ax 2.3 Core Boring Points in the Site

2.2.2 Evaluation on Geological Foundation

Top soils cover 3 to 3.5 m in depth and have N-value of less than 20, of which bearing capacity of soil layer is not sufficient for construction of heavy buildings and big facilities. In construction of the buildings and facilities, strengthening approaches of geological foundation, such as replacement of top soils, strengthening of compacting soil layers and shallow structural foundation is necessary.

Soil layer in depth of 5-15 m has N-value of 20 to 40 with some variation of N-value, but, bearing capacity of the layer comes stronger in more deep layers. Depending on scale and weight of buildings and facilities, foundation treatment for buildings and/or facilities is required, if necessary.

Soil layer in depth of more than 15 m is the cemented silt soil layer mixed with sand, gravel and stone and has N-value of 40 to 50. Bearing capacity of the soil layer is sufficient for construction of buildings and facilities.

2.2.3 Geological Characteristics in the Project Site

Geological maps published by Geological Research and Development Center, Bandung shows that the Project area is covered by young volcanic deposits of Mt. Raja Basa, the Quaternary and that The Tertiary deposits are laid beneath the young volcanic deposits. Geological base layer in this area is not complex.

2.2.4 Laboratory Test

Soil samples for laboratory test are mainly taken from silty soils layer. The sample soils are soil categories of silt and clay, and soil type are MH, CL, CH. These soil types have moderate to high toughness as well as stickiness (Refer to Table ax 2.1).

Soil type classified into CL has friction angle of 19.6° , coefficient of cohesion of 0.14 kg/cm^2 clarified by tri-axial test and consolidation coefficient of 0.28 kg/cm^2 resulted by consolidation test.

Sandy soils is mixed with crushed sand and coarse sand with grained surface.

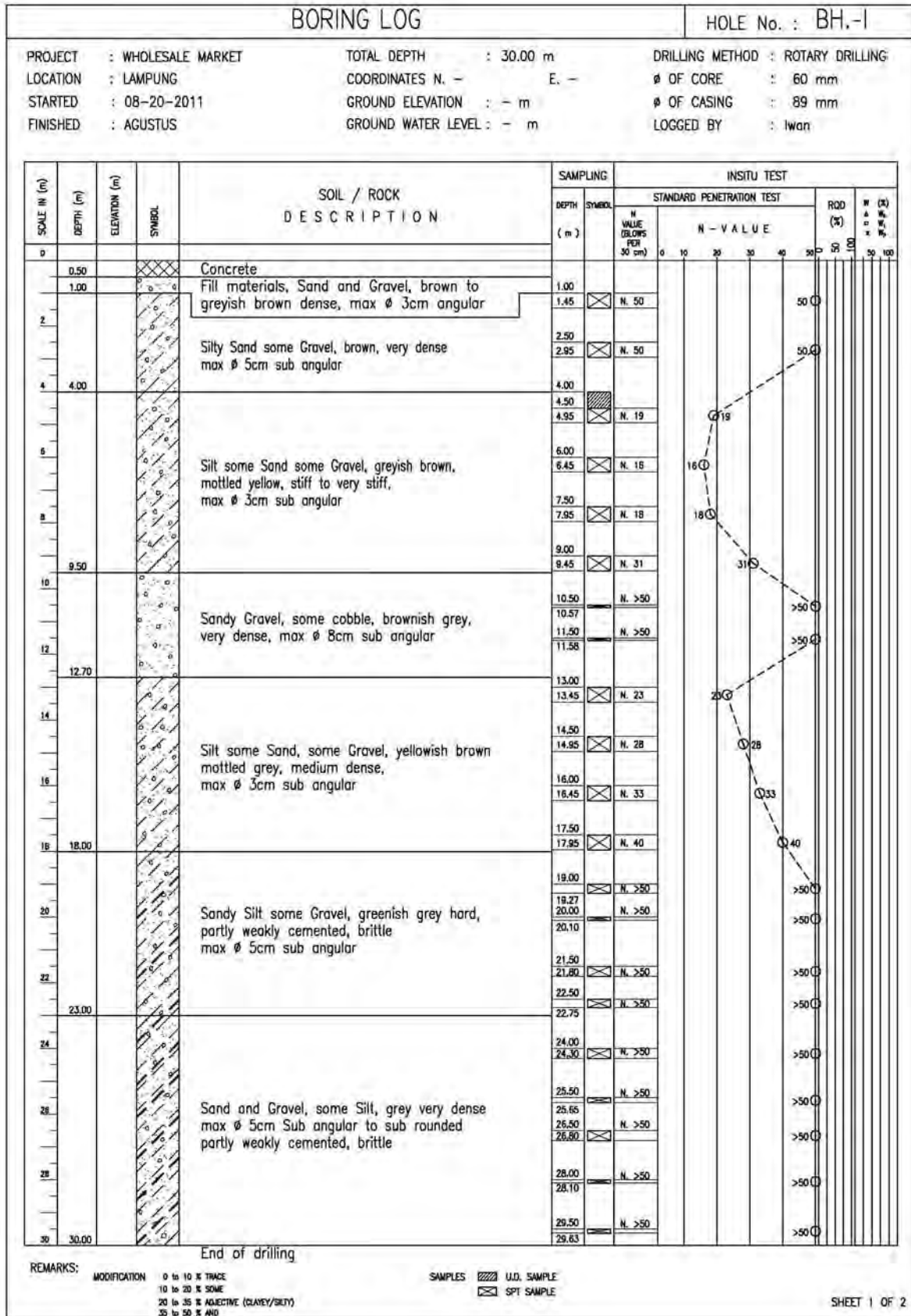


Figure ax 2.4 Profile of Bore Hole B.H-1

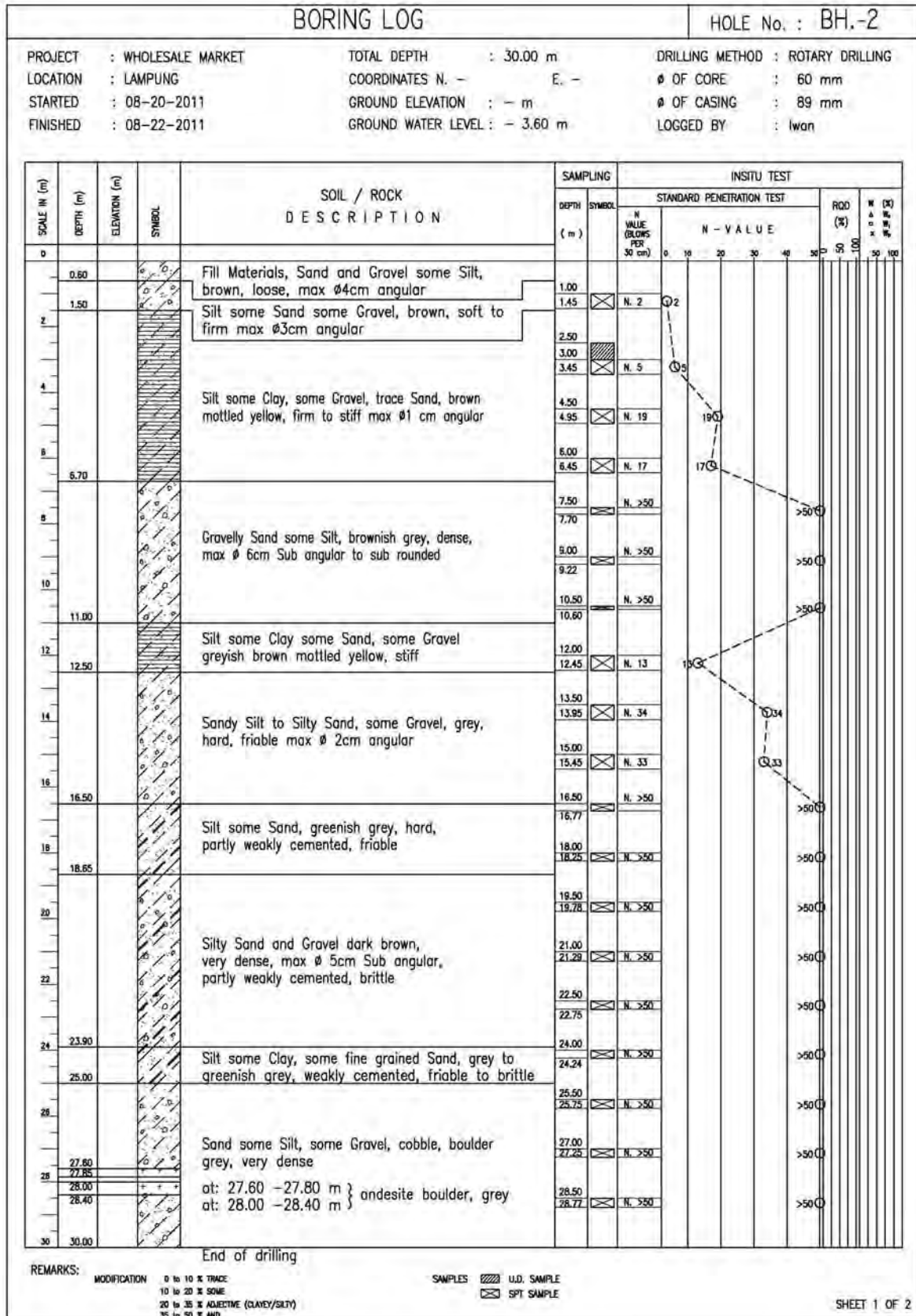


Figure ax 2.5 Profile of Bore Hole B.H-2

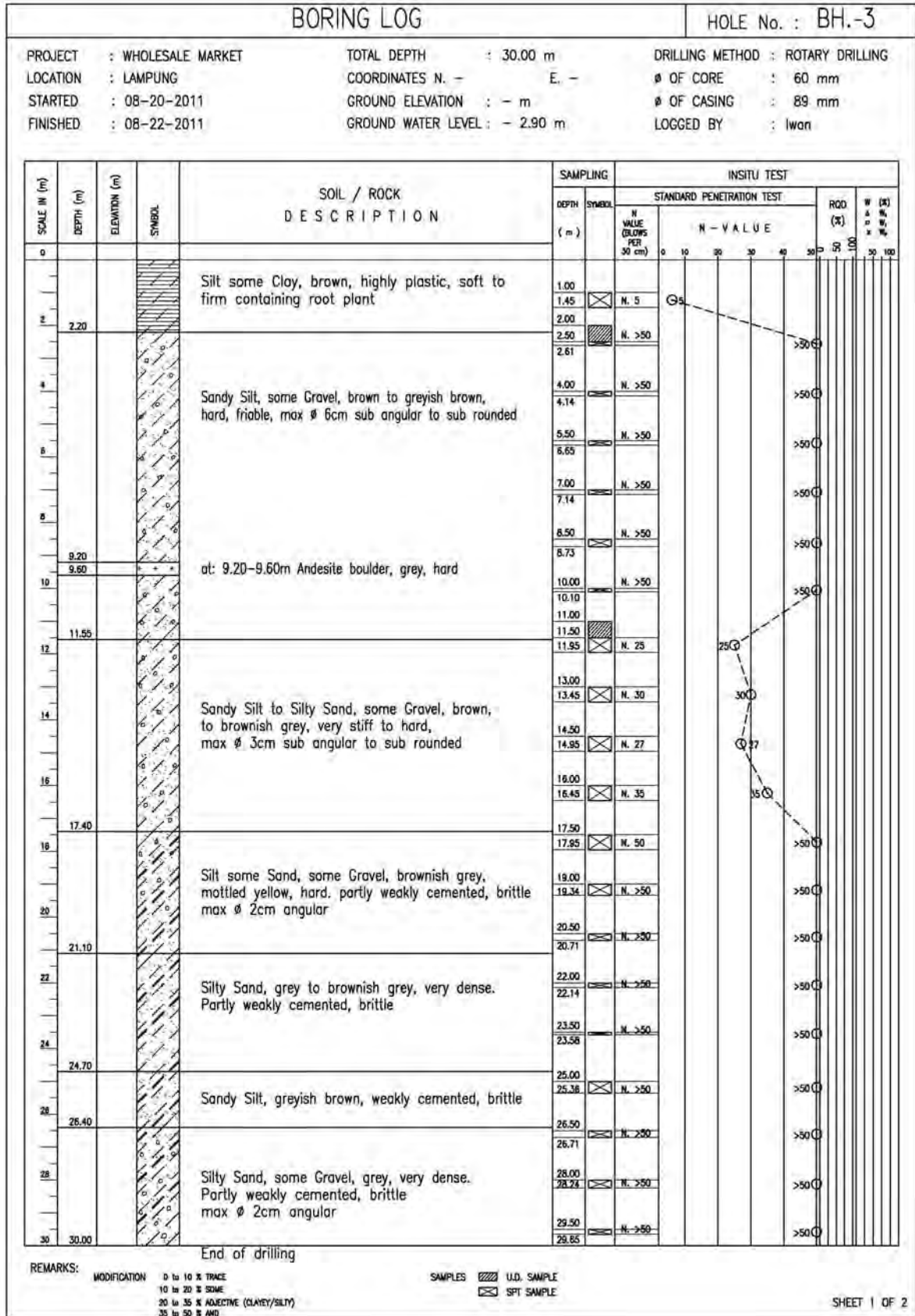


Figure ax 2.6 Profile of Bore Hole B.H-3

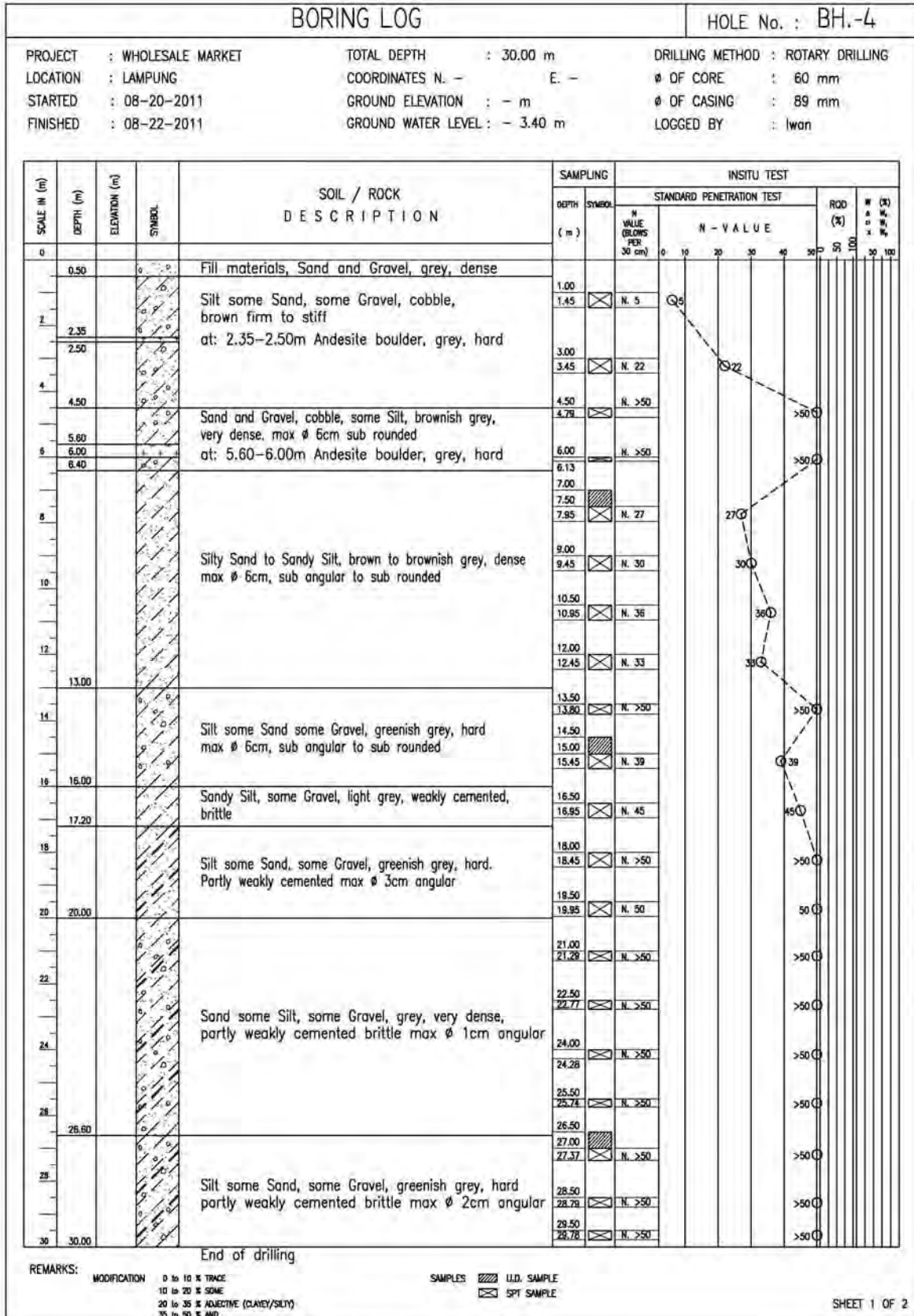


Figure ax 2.7 Profile of Bore Hole B.H-4

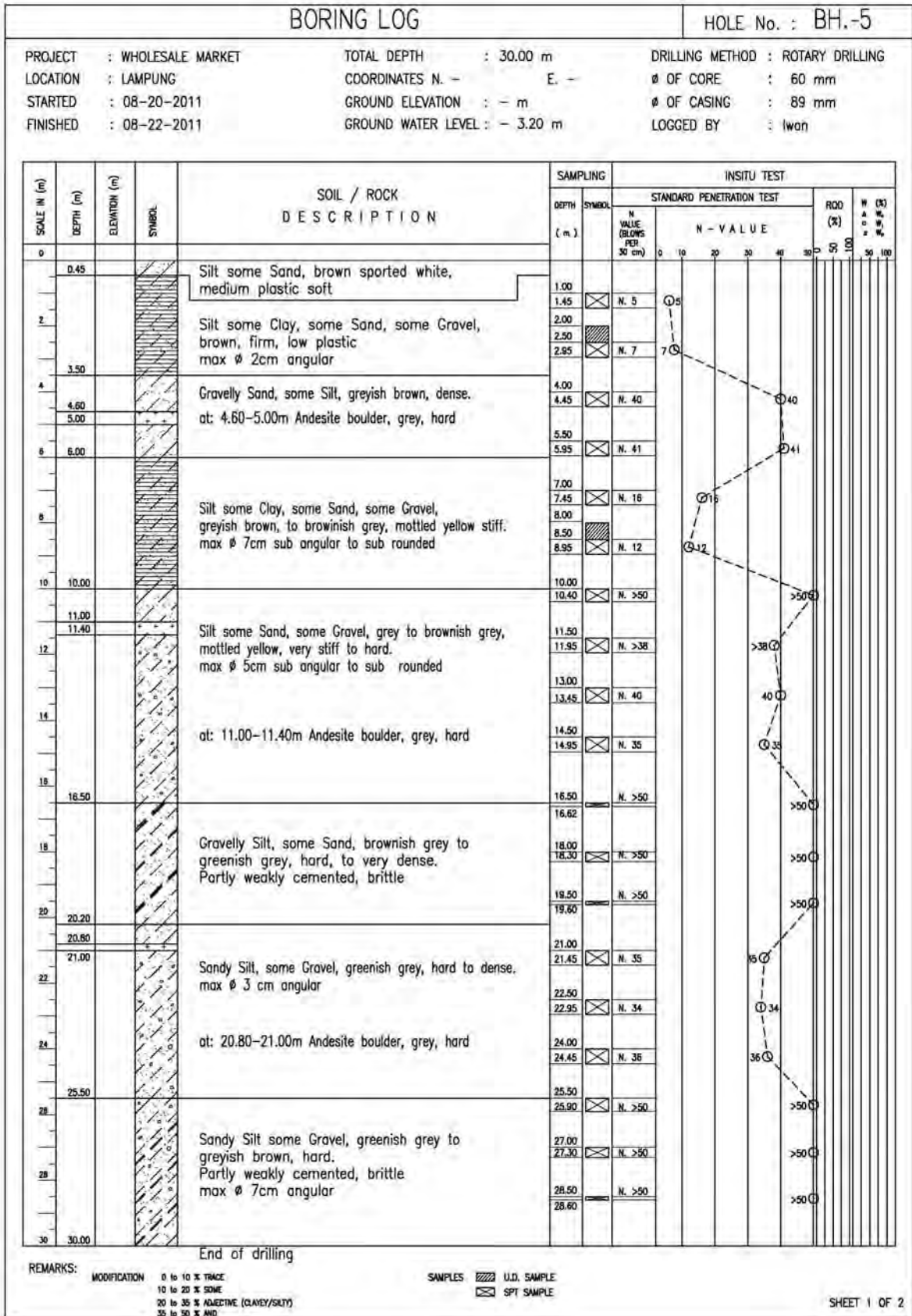


Figure ax 2.8 Profile of Bore Hole B.H-5

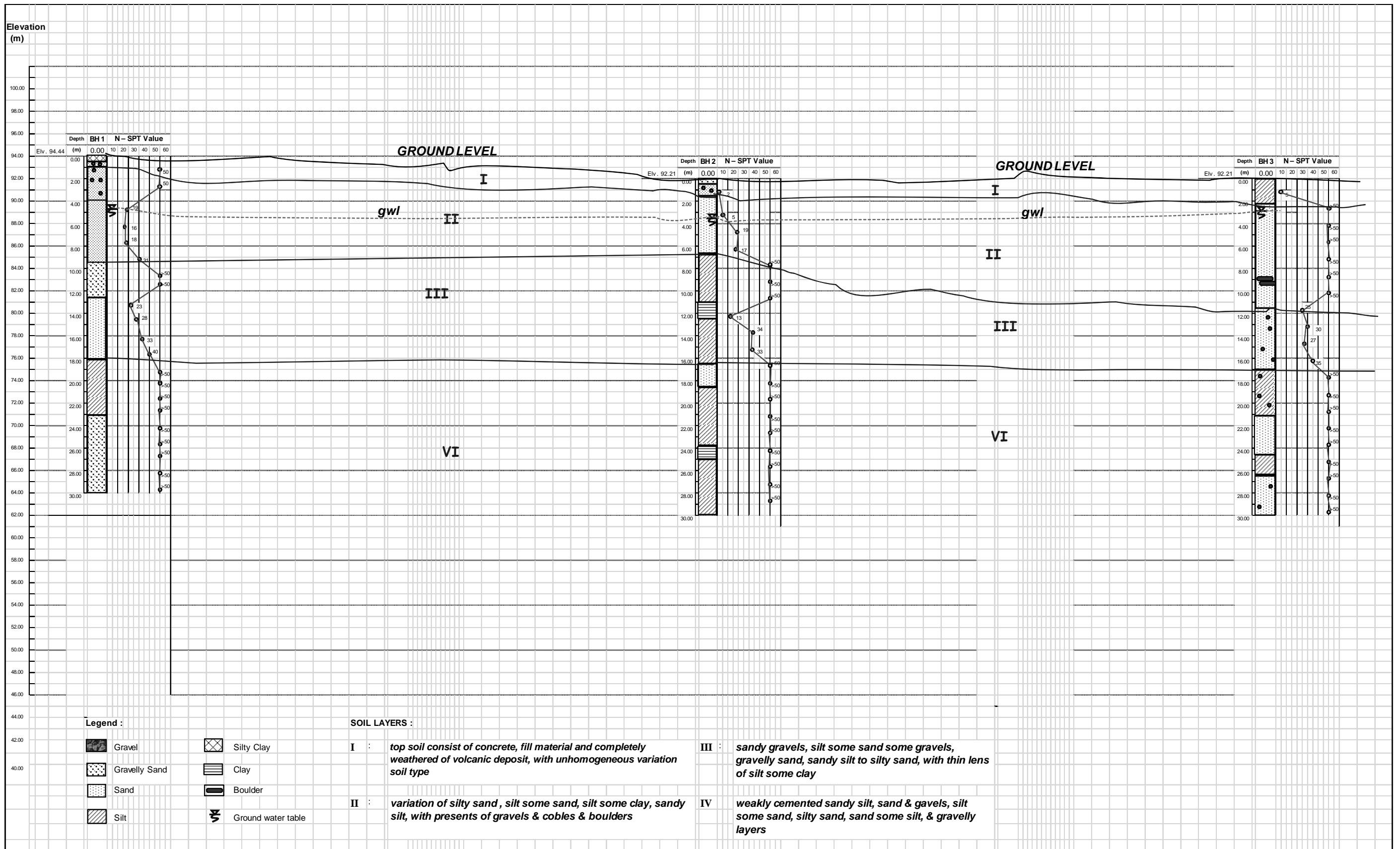


Figure ax 2.9 Simplified Soil Profile Along BH-1, BH-2 and BH-3

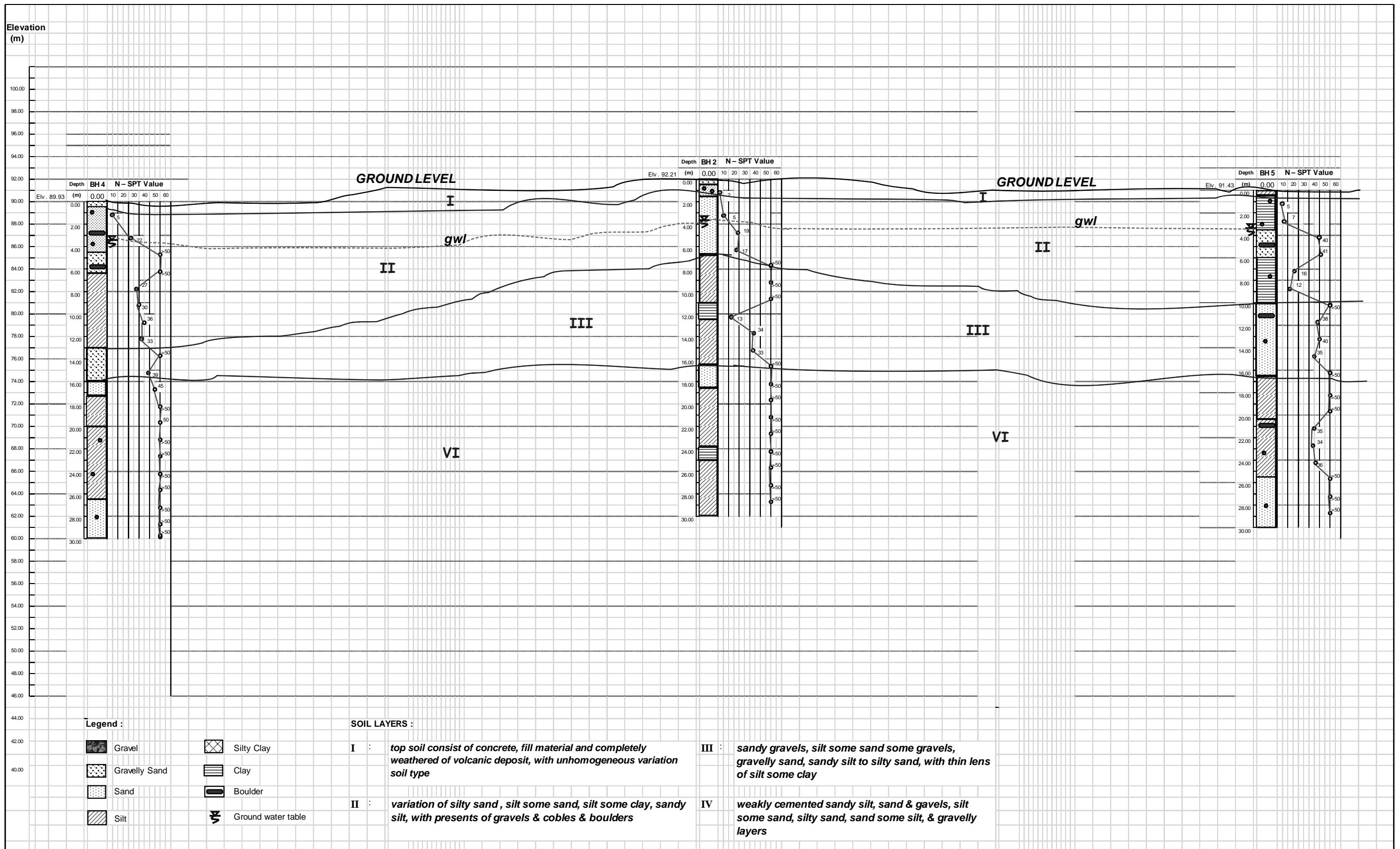


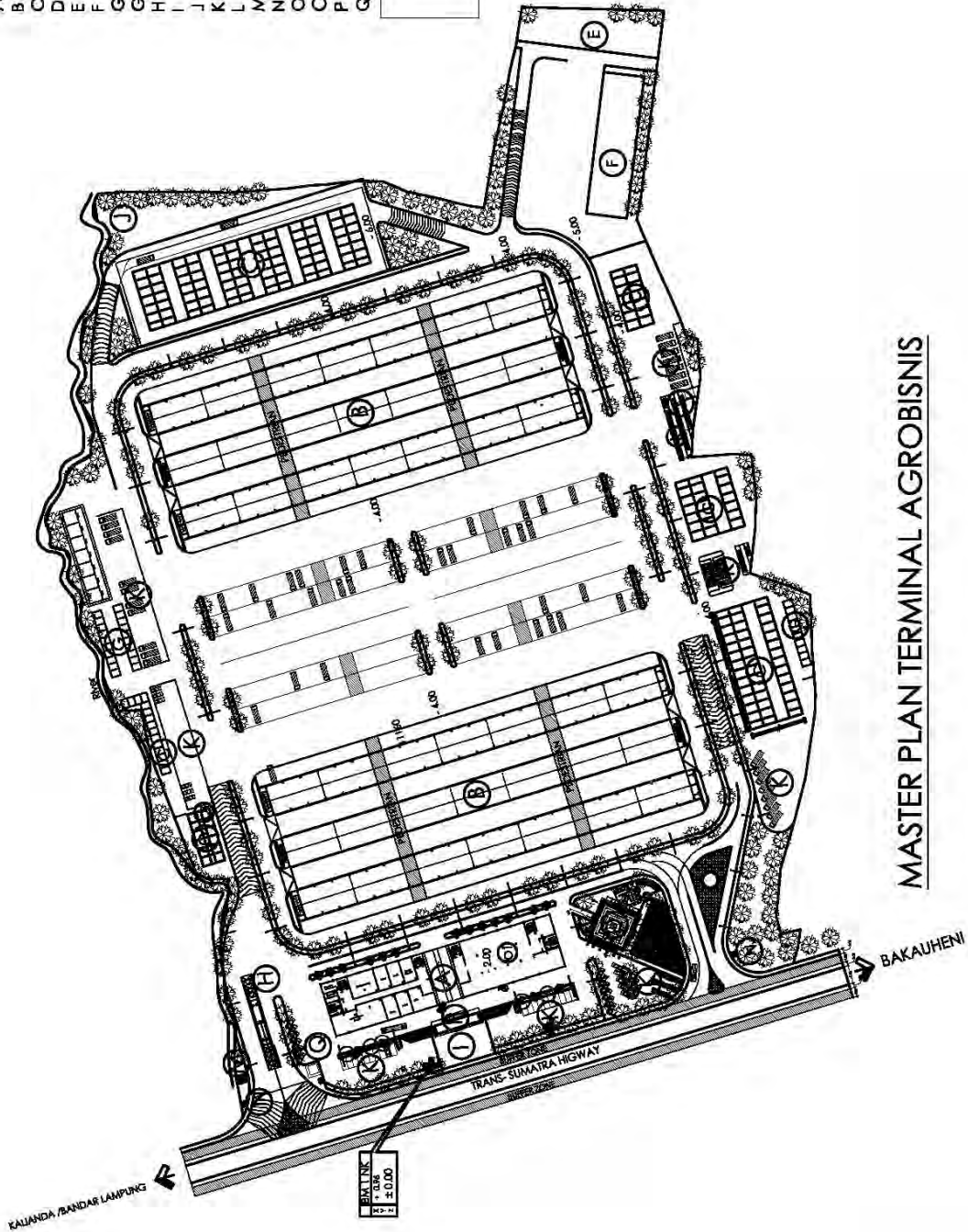
Figure ax 2.10 Simplified Soil Profile Crossing BH-4, BH-2 AND BH-5

Annex-3 Drawings of Facilities of New TA in Lampung Province

LEGEND

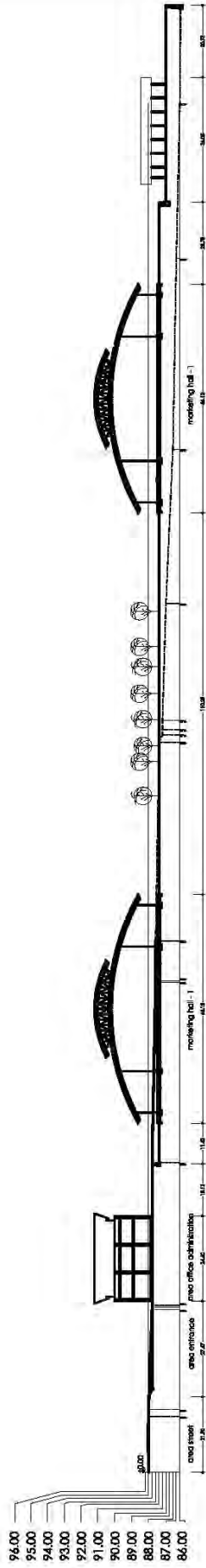
- A ADMINISTRATION CENTRE
- B MARKETING HALL 1
- C MARKETING HALL 2
- D MOSQUE
- E GARBAGE COLLELION/RECYCLING FACILITIES
- F WORKSHOP
- G STORAGE
- G1 COLD STORAGE
- H TRUCK SCALE
- I FIELD
- J SEWAGE POND
- K PARKING
- L RESEVOIR
- M ELECTRICAL POWER STATION
- N GATE
- O ACOMODATION
- O1 CANTEEN
- P BUS STOP
- Q GUARD BOX

total modul 107
total booth 642

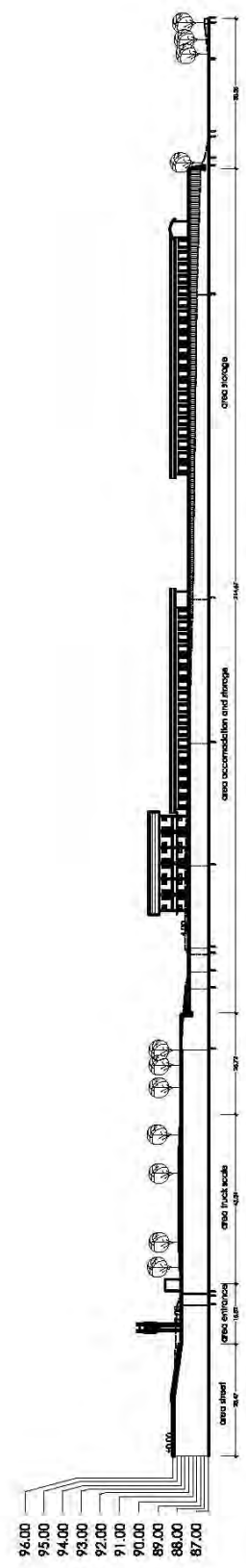


MASTER PLAN TERMINAL AGROBISNIS

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET (Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)	BLOCK PLAN	MASTER PLAN OPTION 1		SCALE	NO	NOTE
					01	

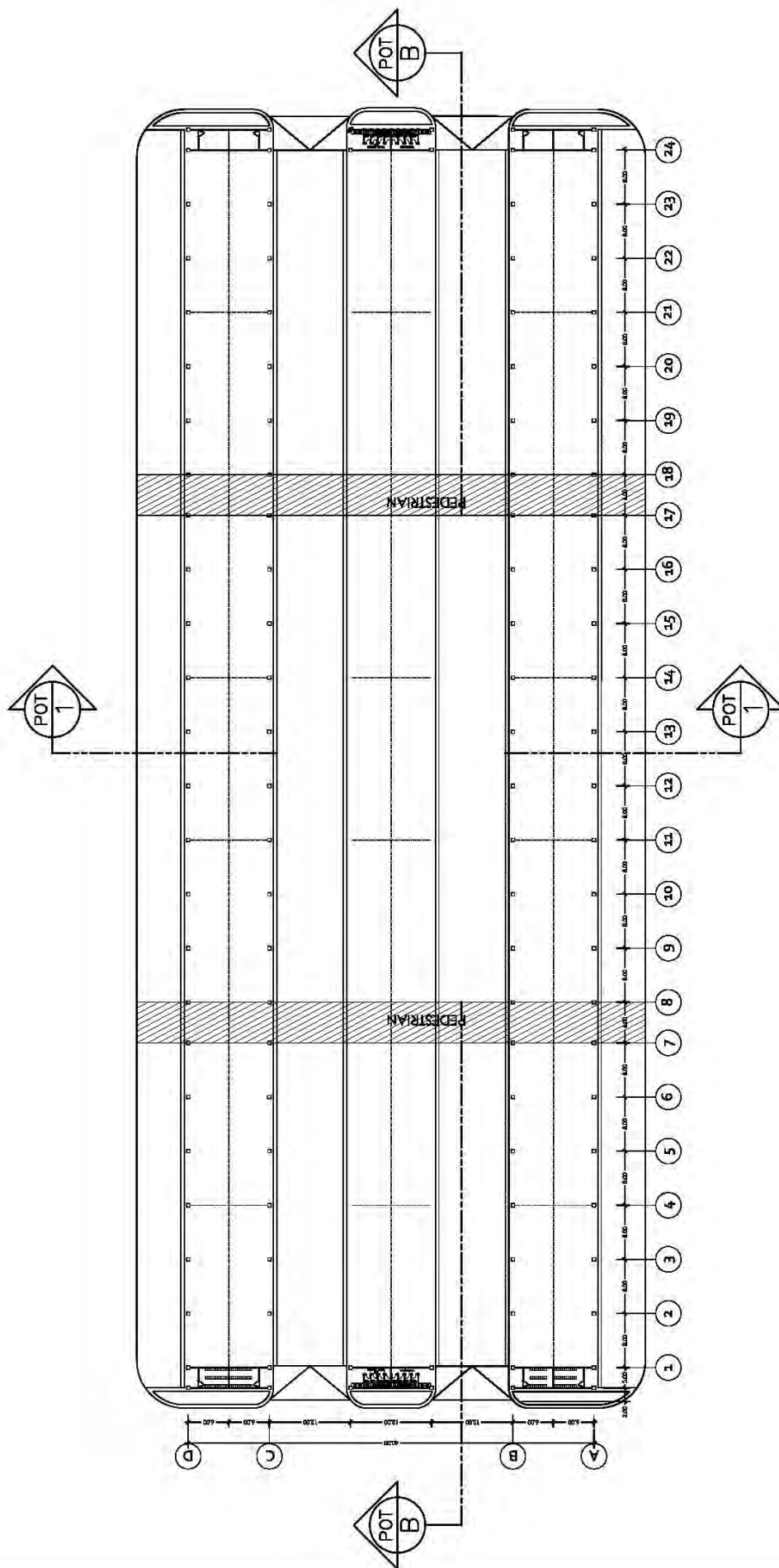


SECTION B-B1
SCALE 1:1200



SECTION A-A1
SCALE 1:1200

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET (Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)		MASTER PLAN		MAIN SECTION		SCALE	NO	NOTE
						1 : 1200	-	



MARKETING HALL TYPE 1
SCALE 1:600

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET
(Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)

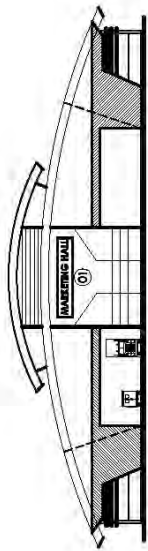
MARKETING HALL 1

PLAN

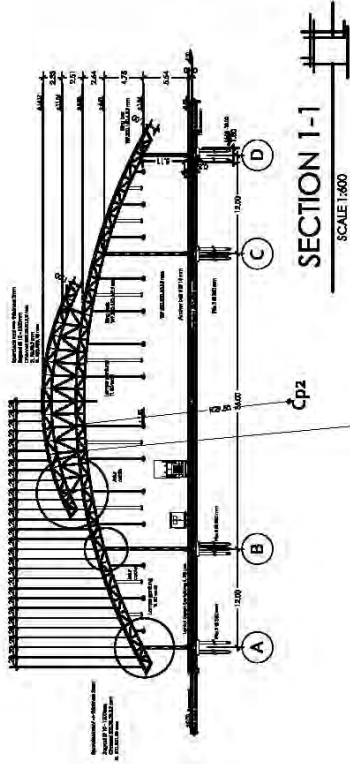
SCALE

NO

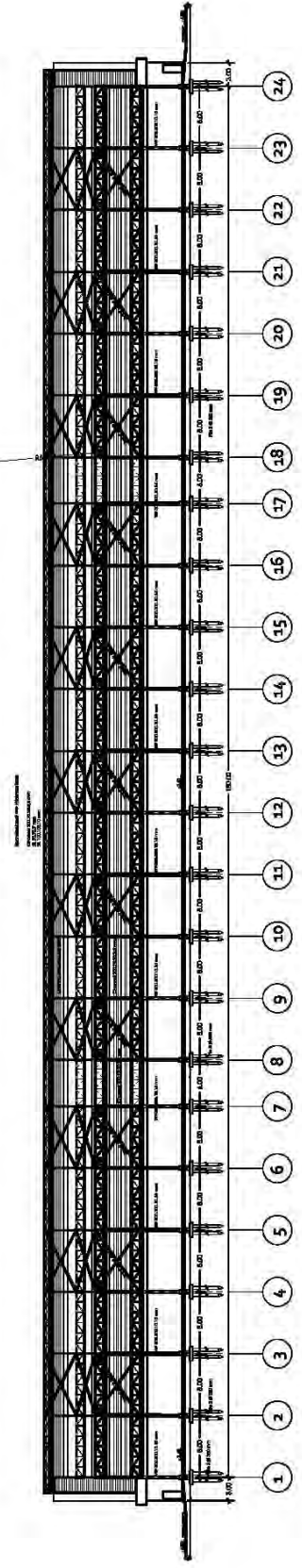
NOTE



FRONT SIDE
SCALE 1:600

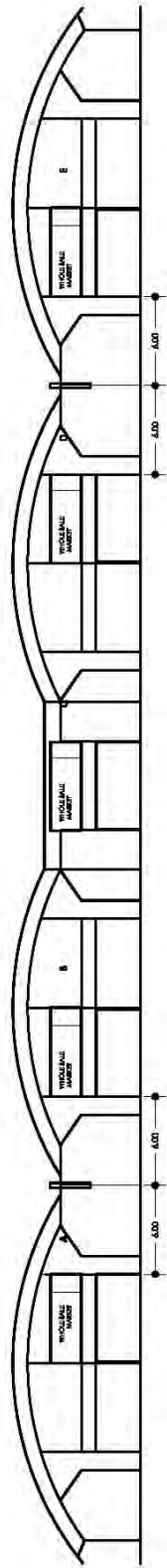


SECTION 1-1
SCALE 1:600



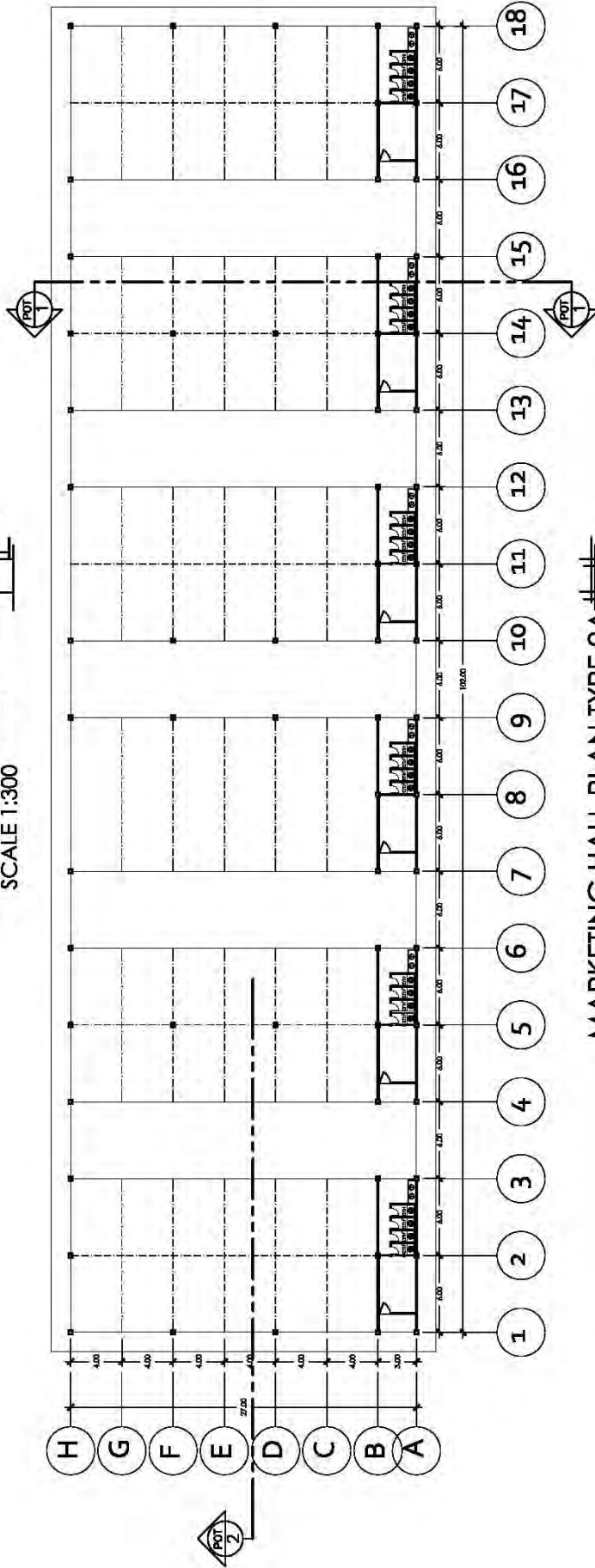
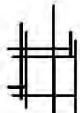
SECTION 2-2
SCALE 1:600

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET (Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)	MARKETING HALL 1	FRONT SIDE CROSS SECTION LONG SECTION	SCALE	NO	NOTE



FRONT SIDE VIEW

SCALE 1:300



MARKETING HALL PLAN TYPE 2A

SCALE 1:300



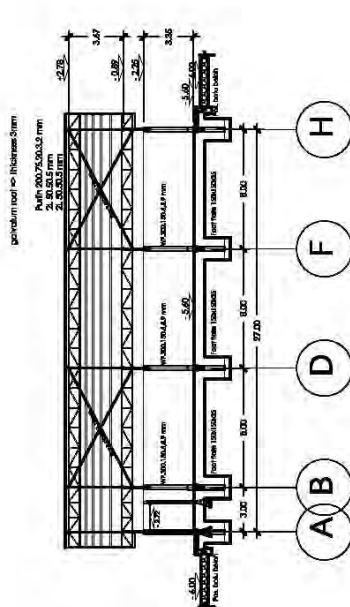
DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET
(Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)

MARKETING HALL TYPE 2A

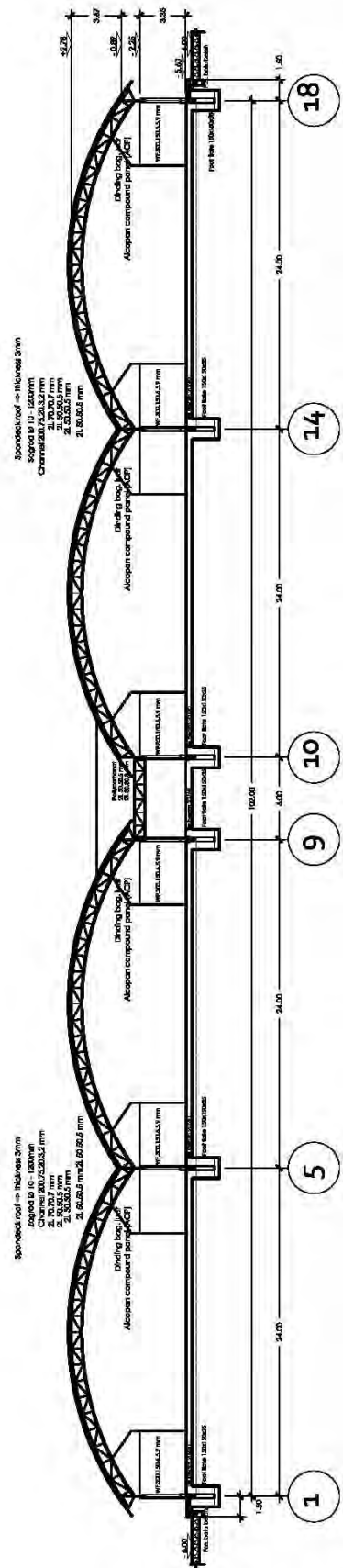
SCALE 1:300

NO 11

NOTE

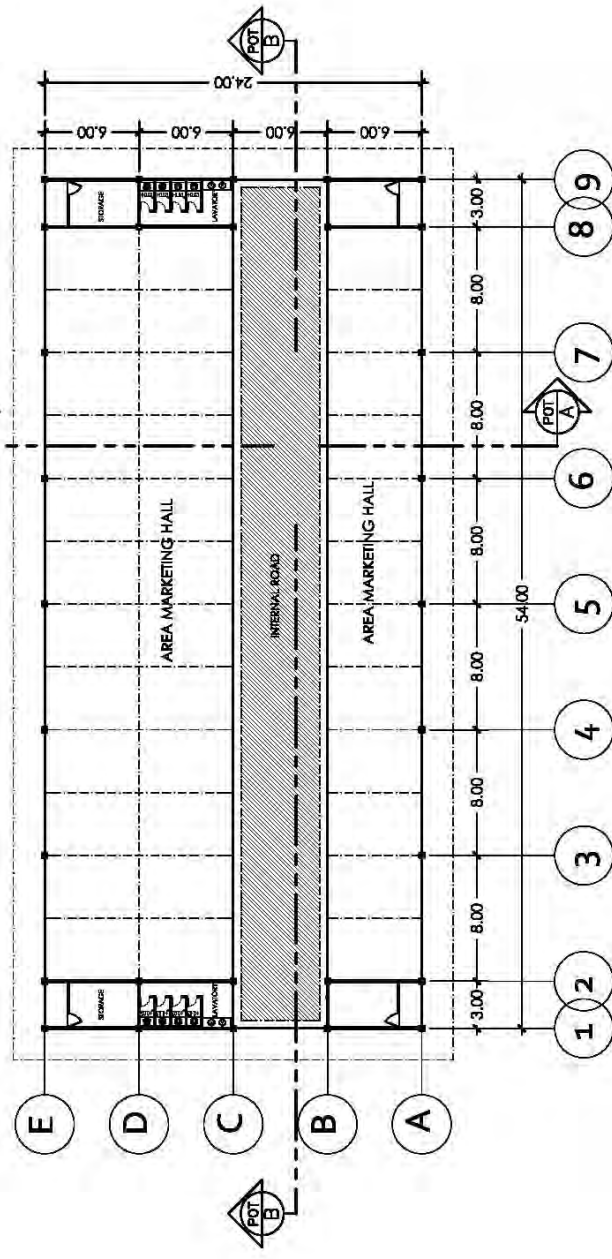
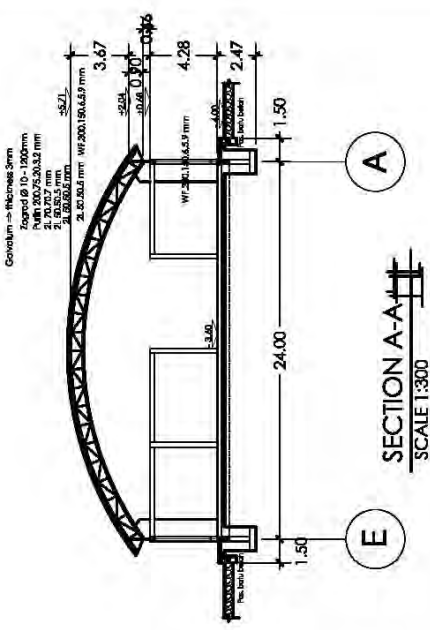
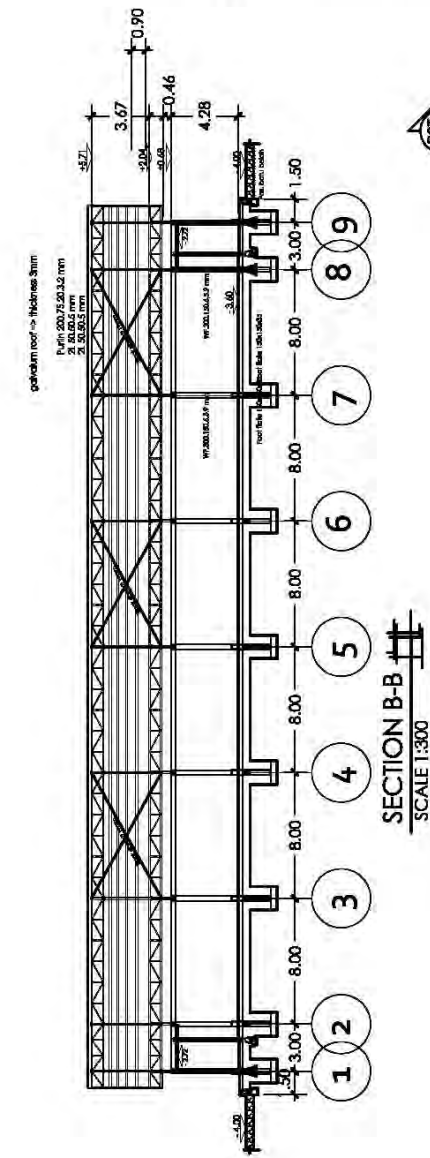


SECTION 1-1
SCALE 1:300



SECTION 2-2
SCALE 1:300

SECTION 1-1 SECTION 2-2	SCALE 1 : 300	NO 11	NOTE

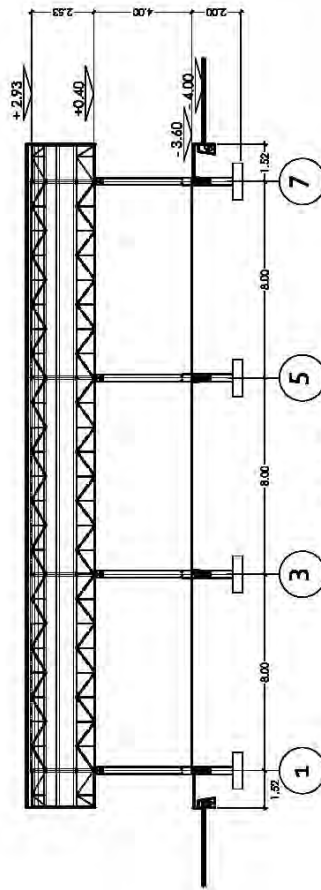


MARKETING HALL PLAN TYPE 2B
SCALE 1 : 300

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET (Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)	MARKETING HALL 2B		PLAN & VIEW		SCALE 1 : 300	NO	NOTE
						-	

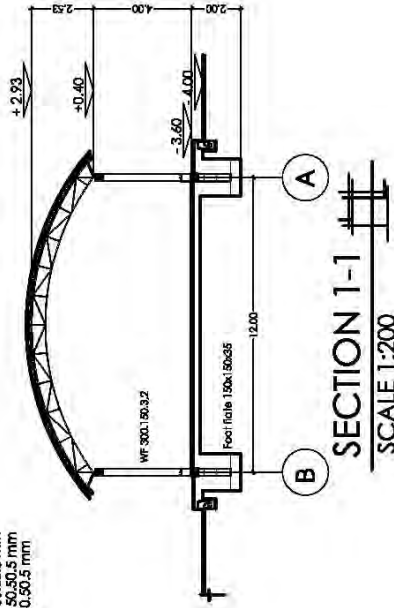
Zincalume roof => thickness 3mm

Purlin Channel 200,75,20,3,2 mm
 2L 40,60,6 mm
 2L 50,50,5 mm

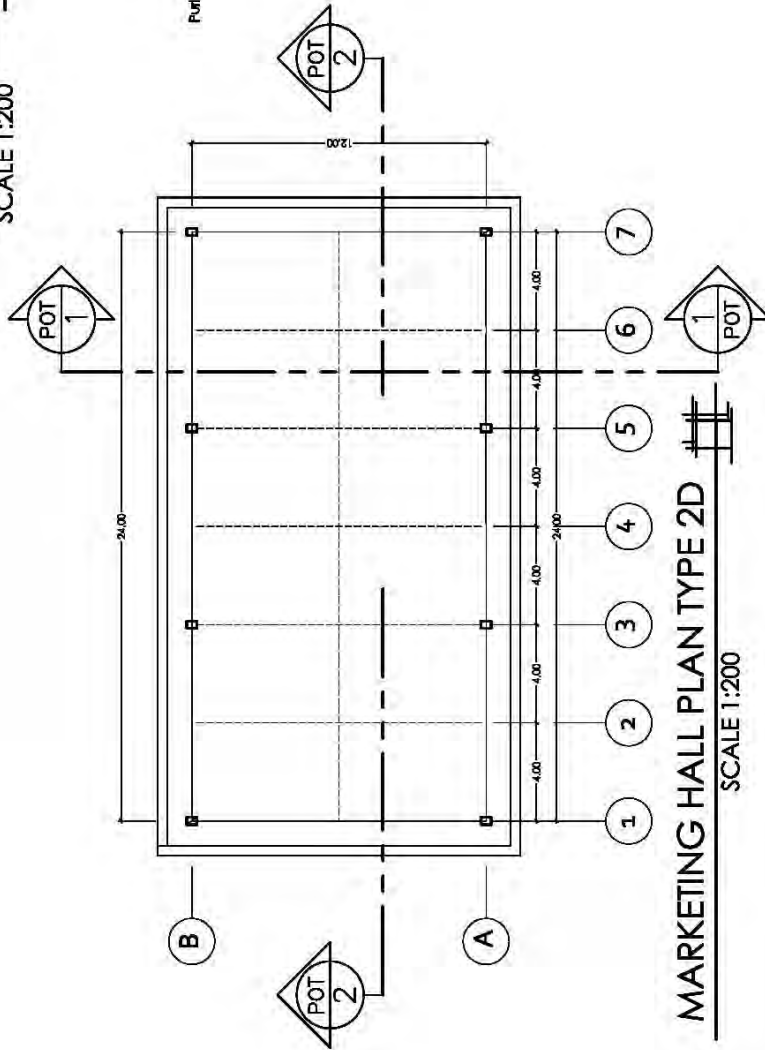


SECTION 2-2
 SCALE 1:200

Zincalume roof => thickness 3mm
 Sagrod Ø 10 - 1200mm
 Purlin Channel 200,75,20,3,2 mm
 2L 40,60,6 mm
 2L 50,50,5 mm



SECTION 1-1
 SCALE 1:200



MARKETING HALL PLAN TYPE 2D
 SCALE 1:200

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET
 (Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)

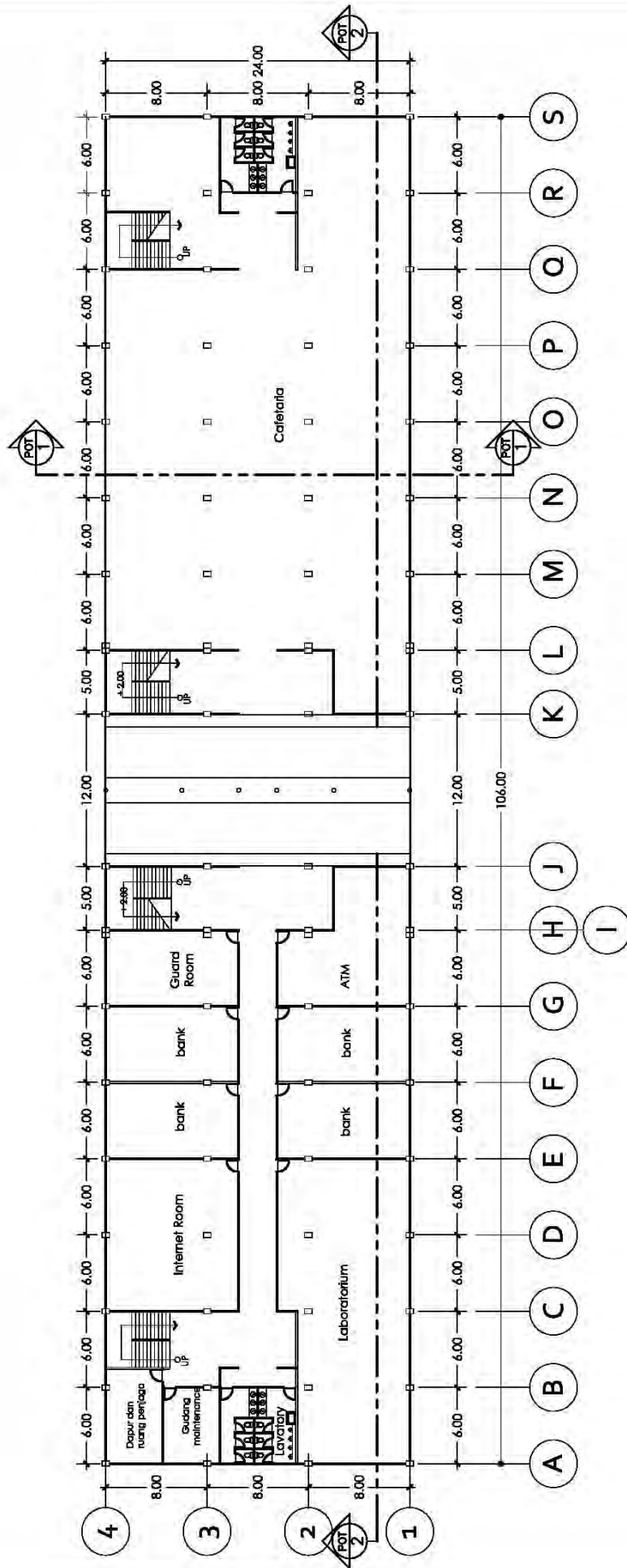
MARKETING HALL TYPE 2D

PLAN AND SECTIONS

SCALE
 1 : 200

NO

NOTE



1ST FLOOR PLAN
SCALE 1:300

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET
(Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)

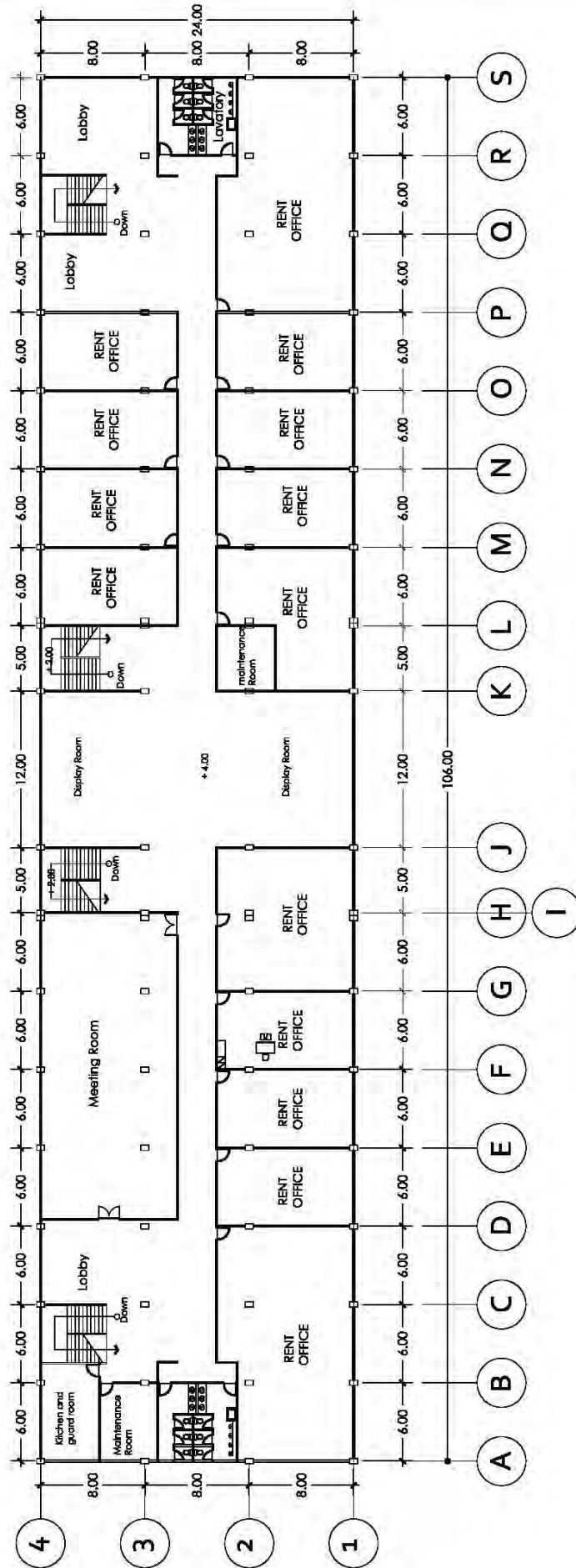
ADMINISTRATION CENTRE

1 ST FLOOR PLAN

SCALE

NO

NOTE

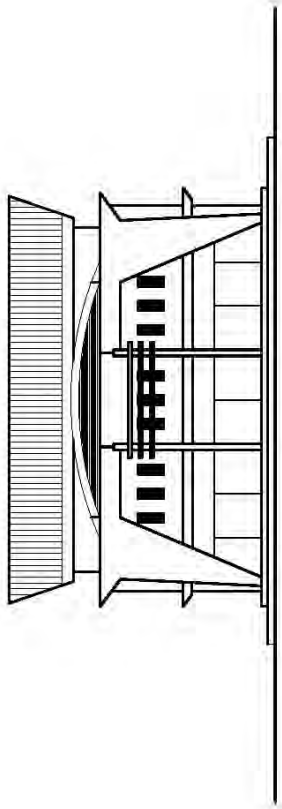


2 ND FLOOR PLAN
SCALE 1:300

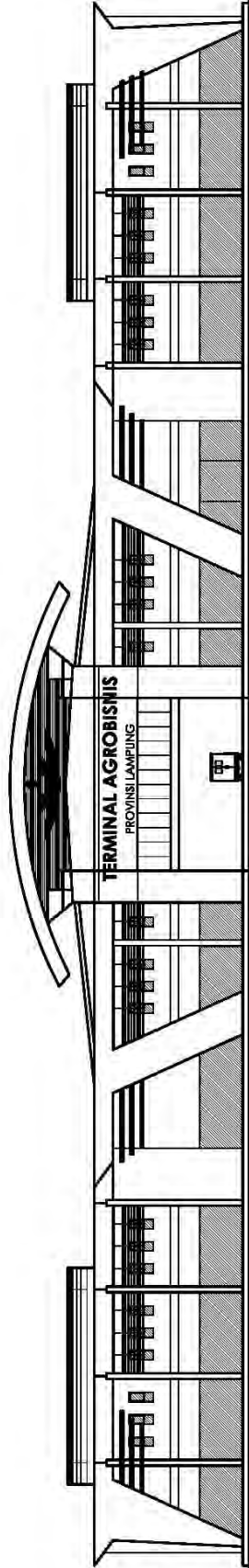
DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET
(Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)

ADMINISTRATION CENTRE
2 ND FLOOR PLAN

SCALE	NO	NOTE
1 : 300	-	



RIGHT SIDE VIEW
SCALE 1:300



FRONT SIDE VIEW
SCALE 1:300

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET
(Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)

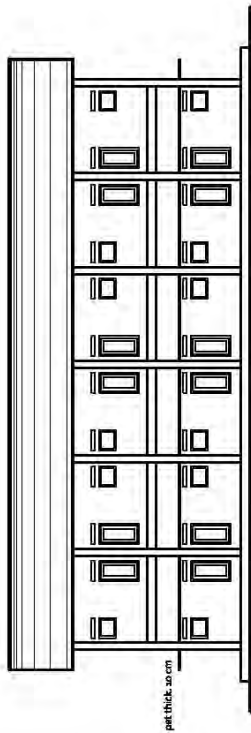
ADMINISTRATION CENTRE

FRONT SIDE VIEW
RIGHT SIDE VIEW

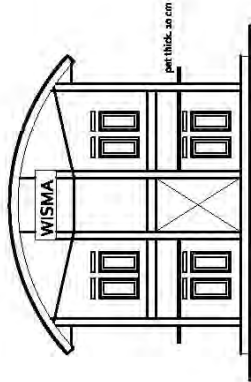
SCALE
1 : 300

NO

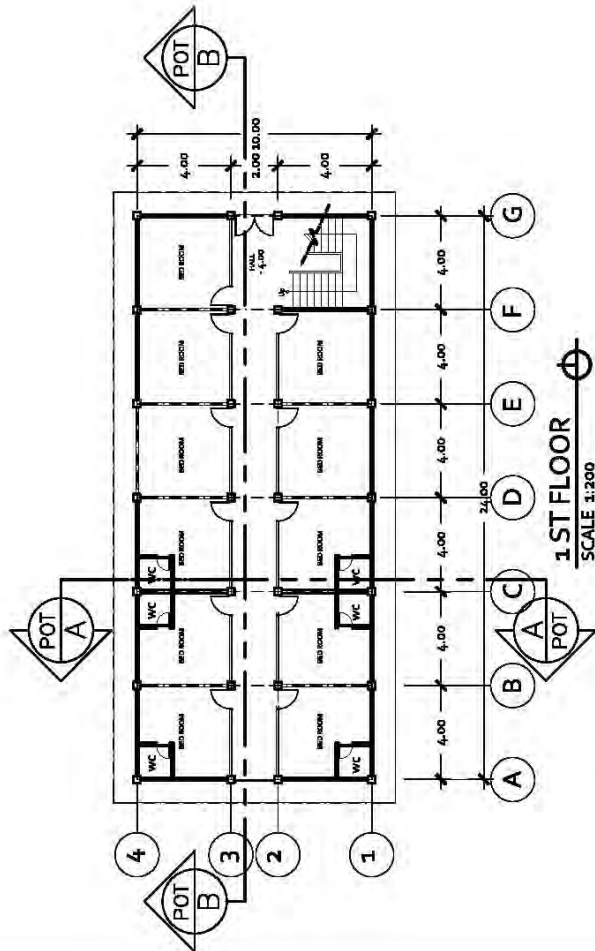
NOTE



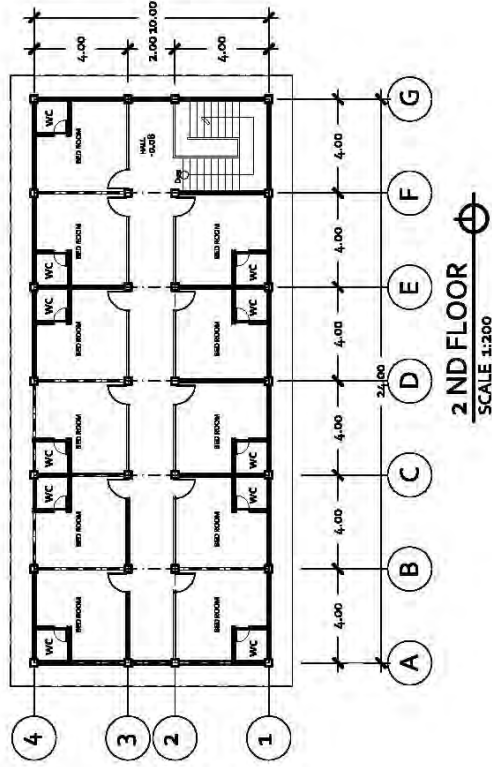
RIGHT SIDE VIEW
SCALE 1:200



FRONT VIEW
SCALE 1:200



1 ST FLOOR
SCALE 1:200



2 ND FLOOR
SCALE 1:200

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET
(Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)

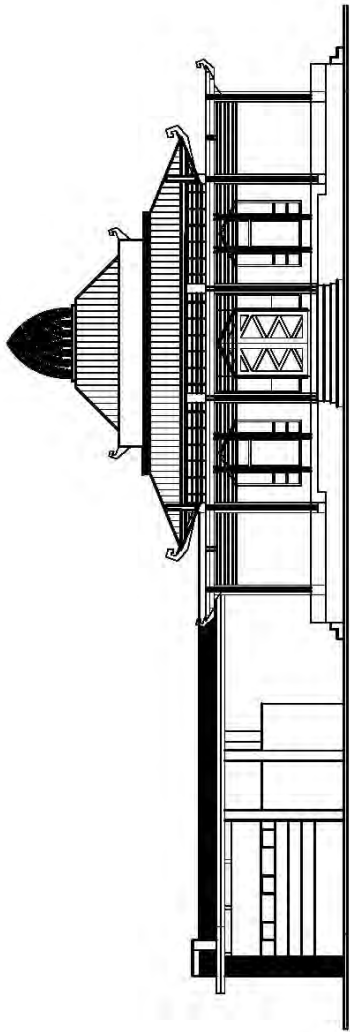
ACCOMMODATION

PLAN AND VIEWS

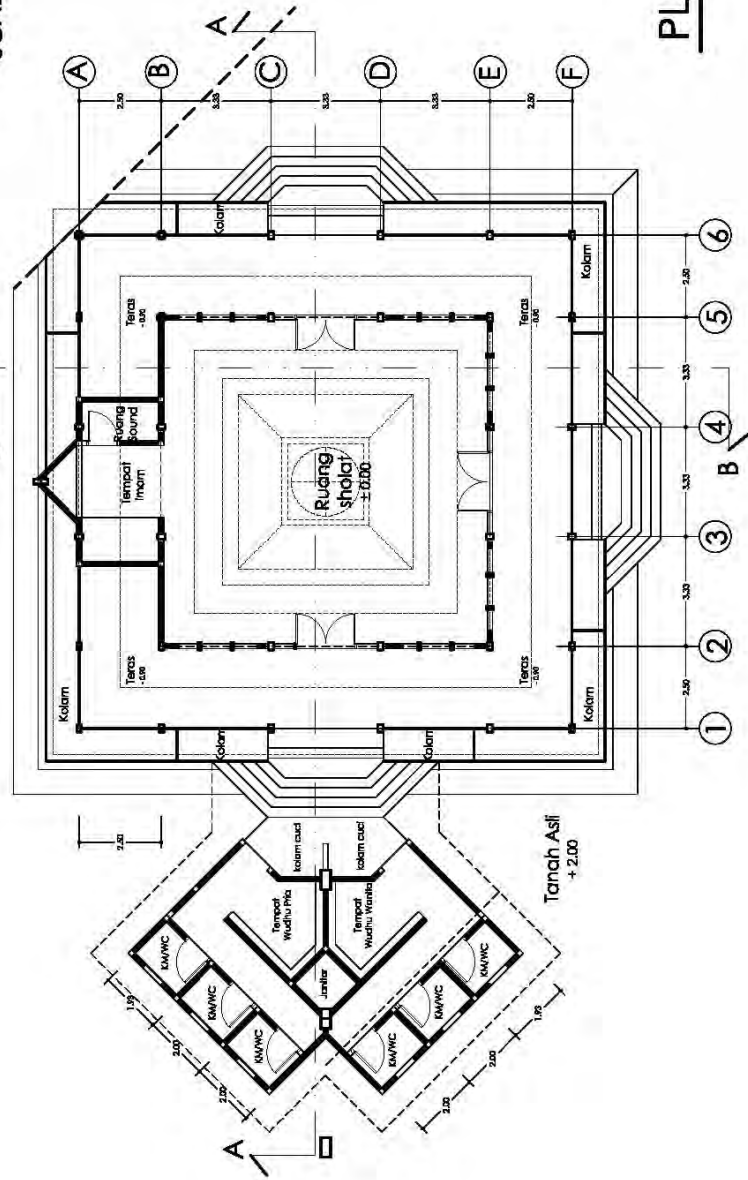
SCALE

NO

NOTE

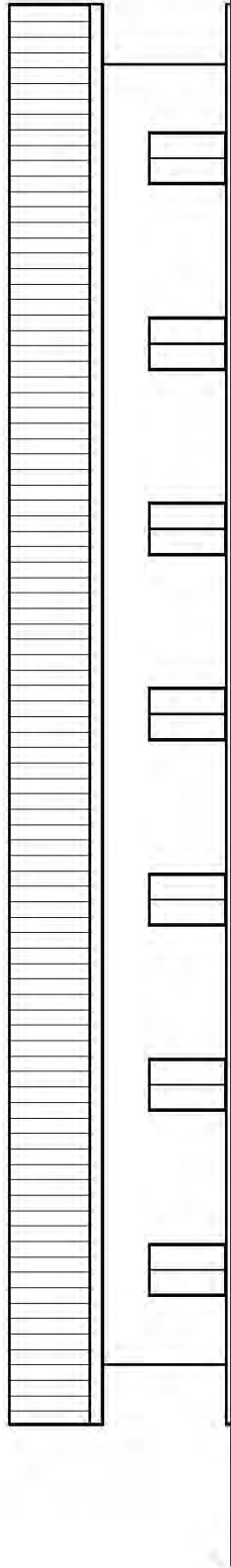


FRONT SIDE VIEW
SCALE 1:150

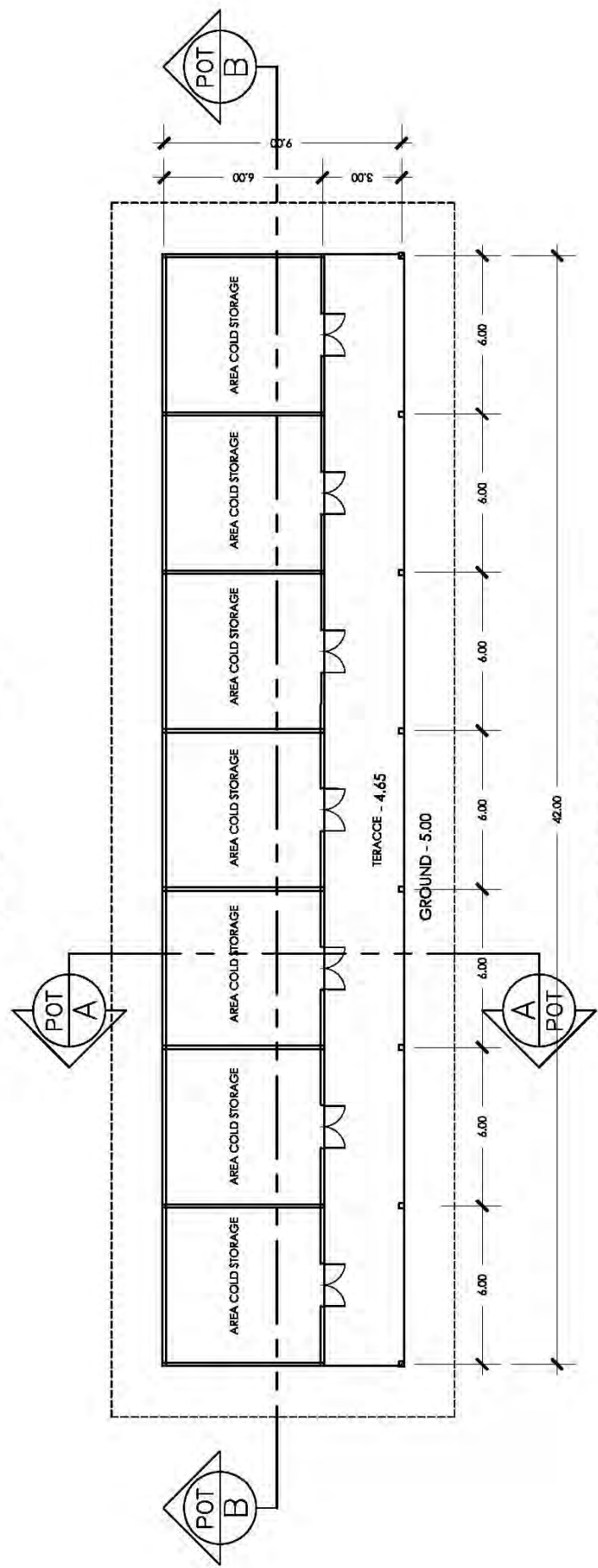


PLAN MOSQUE
SCALE 1:150

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET (Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)	MOSQUE	PLAN AND VIEW	SCALE	NOTE
			1 : 150	-

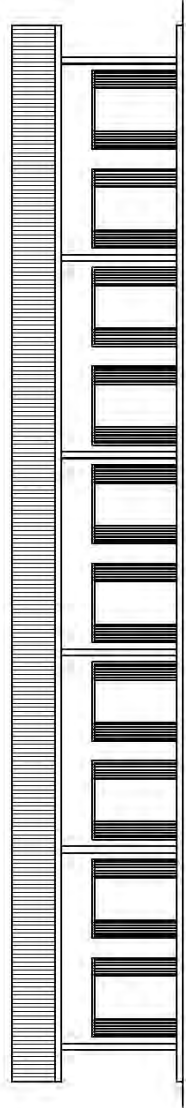


FRONT SIDE VIEW 
SCALE 1:200

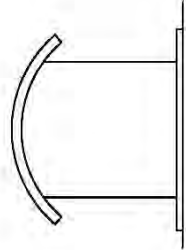


COLD STORAGE PLAN 
SCALE 1:200

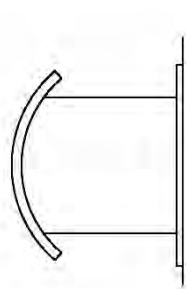
DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET (Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)	PLAN & VIEW		SCALE	NO	NOTE
	COLD STORAGE				



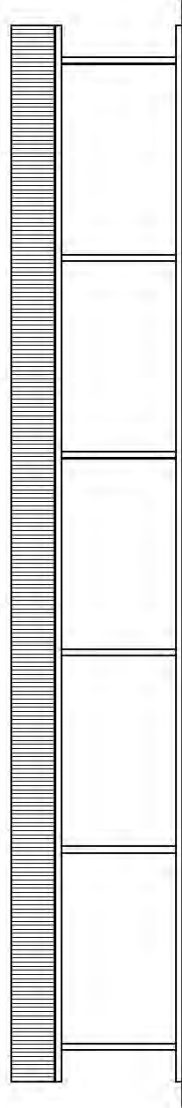
FRONT SIDE VIEW
SCALE 1:150



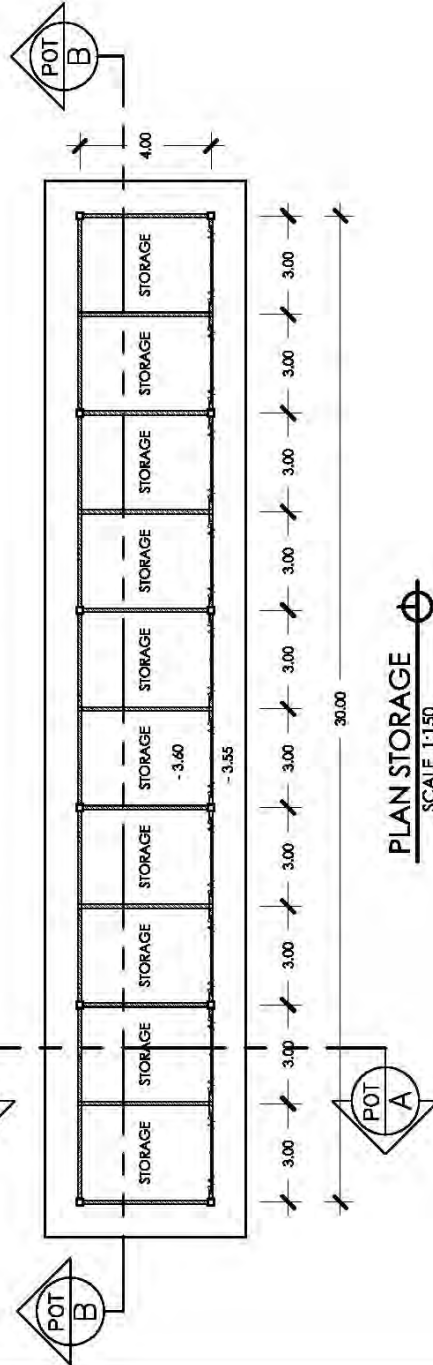
RIGHT SIDE VIEW
SCALE 1:150



LEFT SIDE VIEW
SCALE 1:150



BACK SIDE VIEW
SCALE 1:150



PLAN STORAGE
SCALE 1:150

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET
(Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)

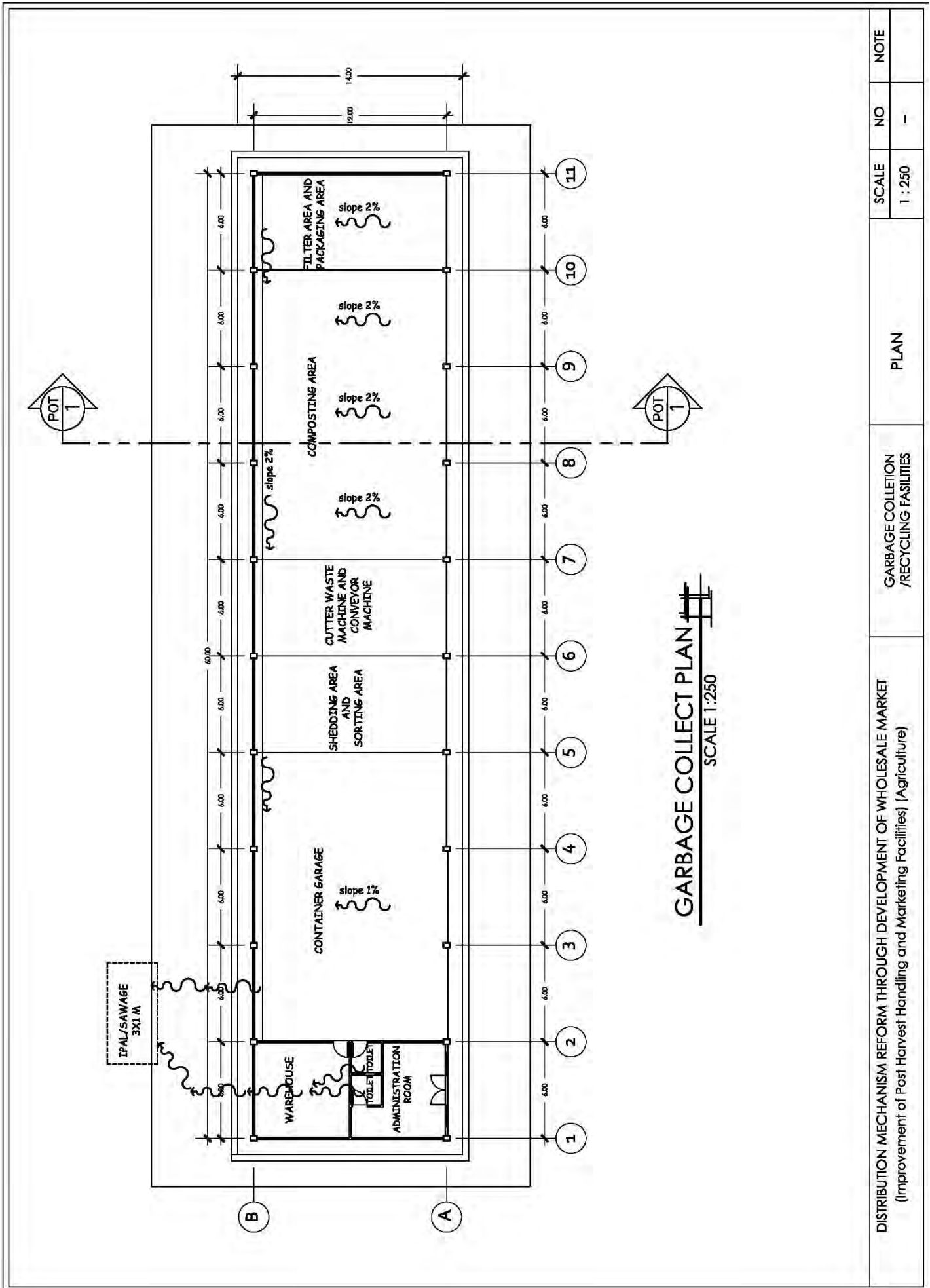
STORAGE

PLAN & VIEWS

SCALE
1 : 150

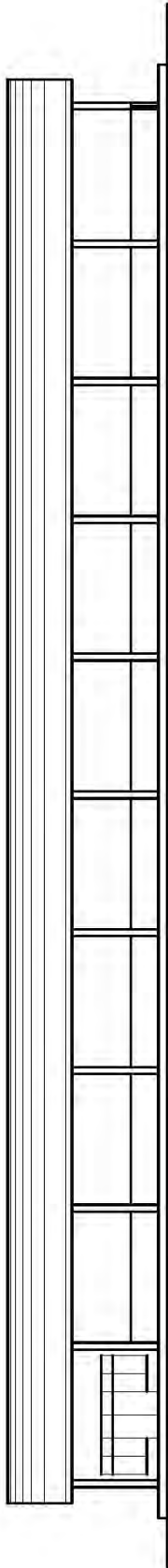
NO
--

NOTE



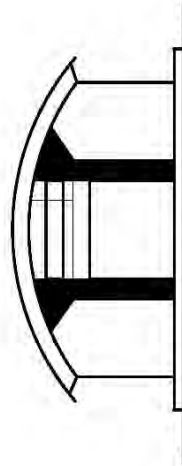
GARBAGE COLLECT PLAN
SCALE 1:250

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET (Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)	GARBAGE COLLECTION /RECYCLING FACILITIES	PLAN	SCALE	NO	NOTE
			1 : 250	-	

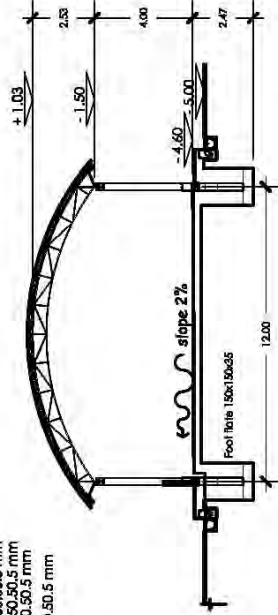


FRONT SIDE VIEW
SCALE 1:200

- Spandeck roof => thickness 3mm
- Sagrod Ø 10 - 1200mm
- Channel 150,45,20,3,2 mm
- 2L 60,50,6 mm
- 2L 50,50,5 mm
- 2L 50,50,5 mm



RIGHT SIDE VIEW
SCALE 1:200



SECTION 1-1
SCALE 1:200

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET
(Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)

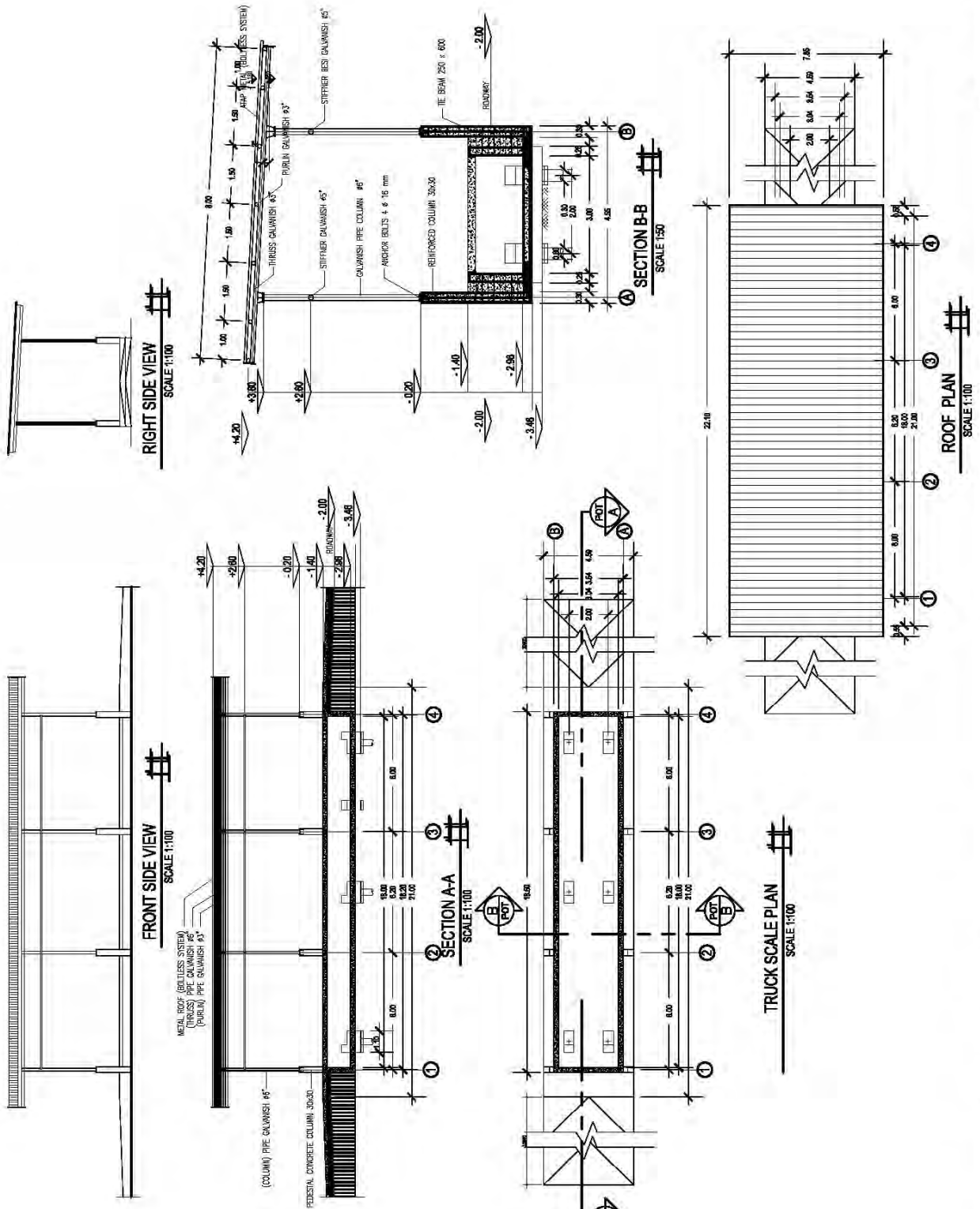
GARBAGE COLLECTION
/RECYCLING FACILITIES

VIEW & SECTION

SCALE
1 : 250

NO

NOTE



DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET
(Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)

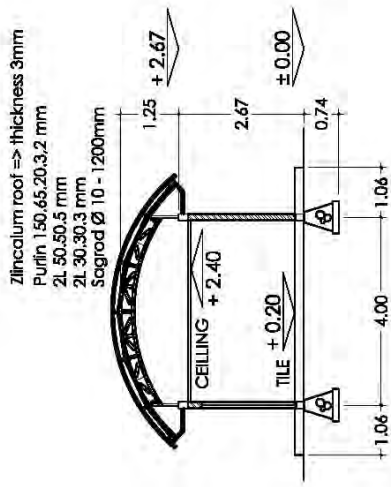
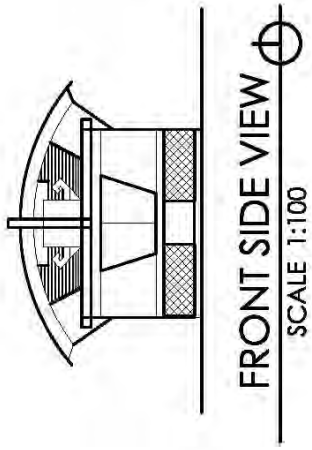
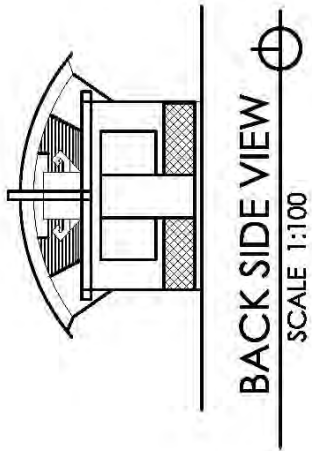
TRUCK SCALE PLAN

PLAN, VIEW & SECTION

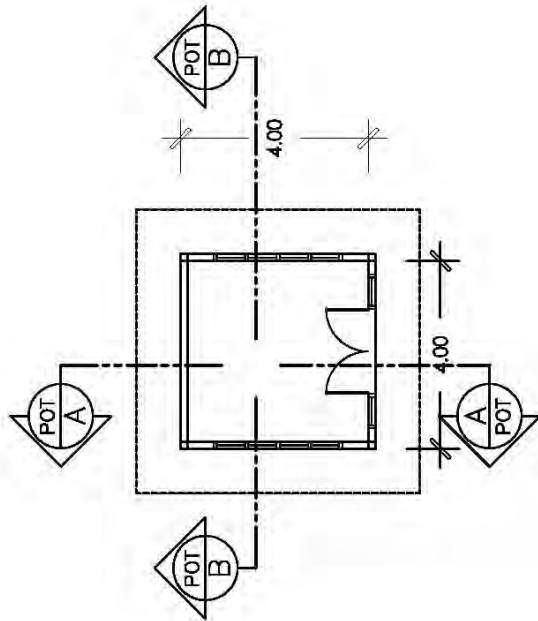
SCALE
1 : 100 & 1:50

NO
-

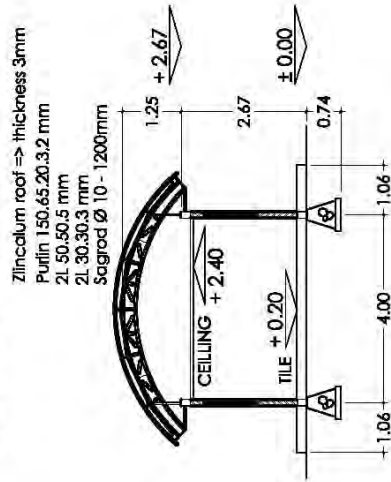
NOTE



SECTION A-A
SCALE 1:100



GUARD BOX PLAN
SCALE 1:100



SECTION B-B
SCALE 1:100

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET
(Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)

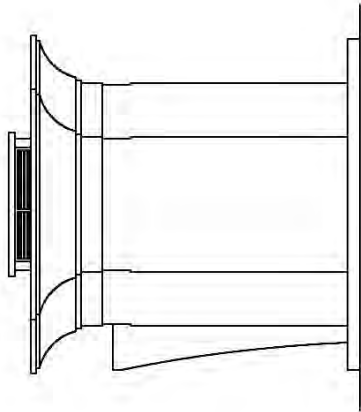
GUARD BOX

PLAN , VIEWS AN D SECTION

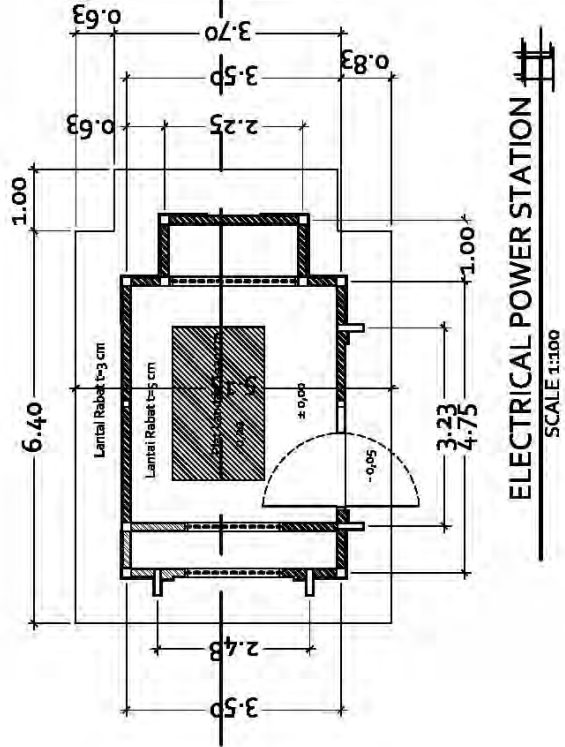
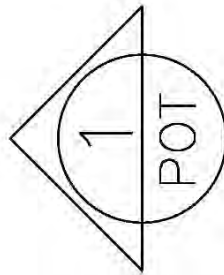
SCALE
1 : 100

NO

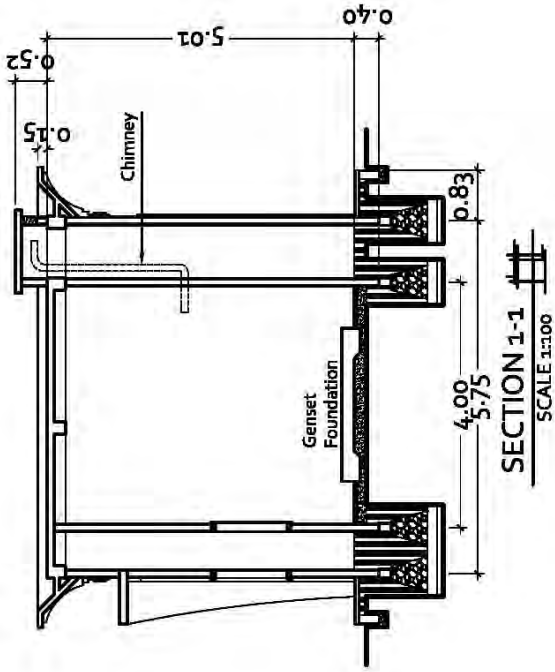
NOTE



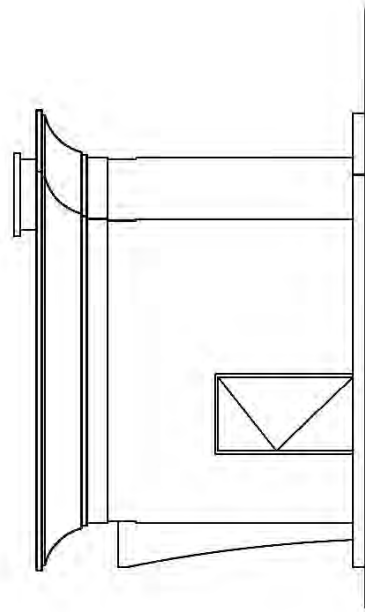
LEFT SIDE VIEW
SCALE 1:100



ELECTRICAL POWER STATION
SCALE 1:100



SECTION 1-1
SCALE 1:100



FRONT SIDE VIEW
SCALE 1:100

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESale MARKET
(Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)

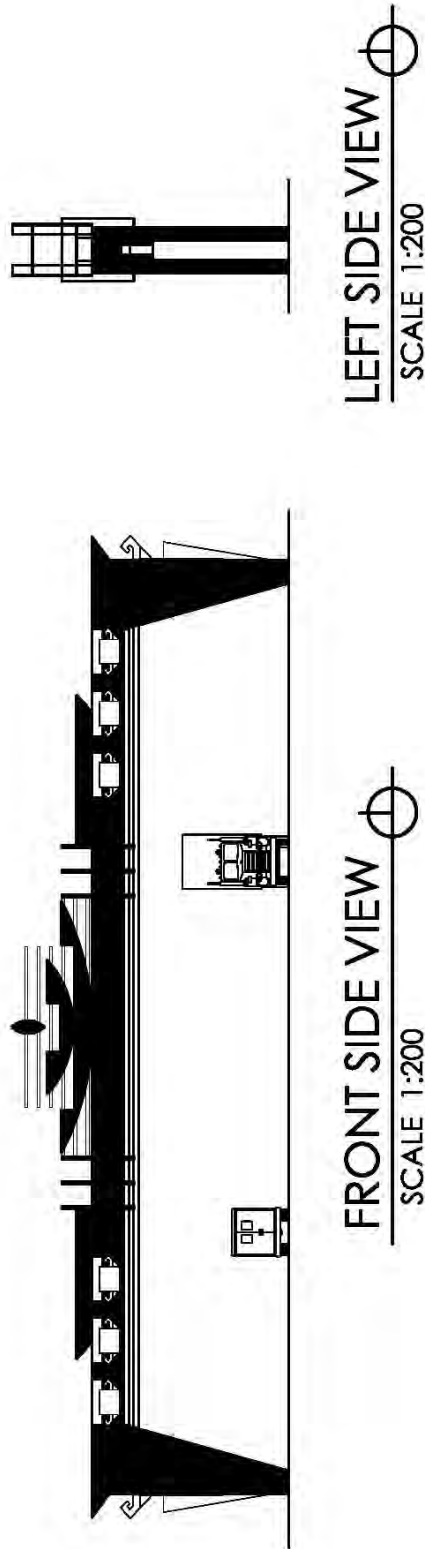
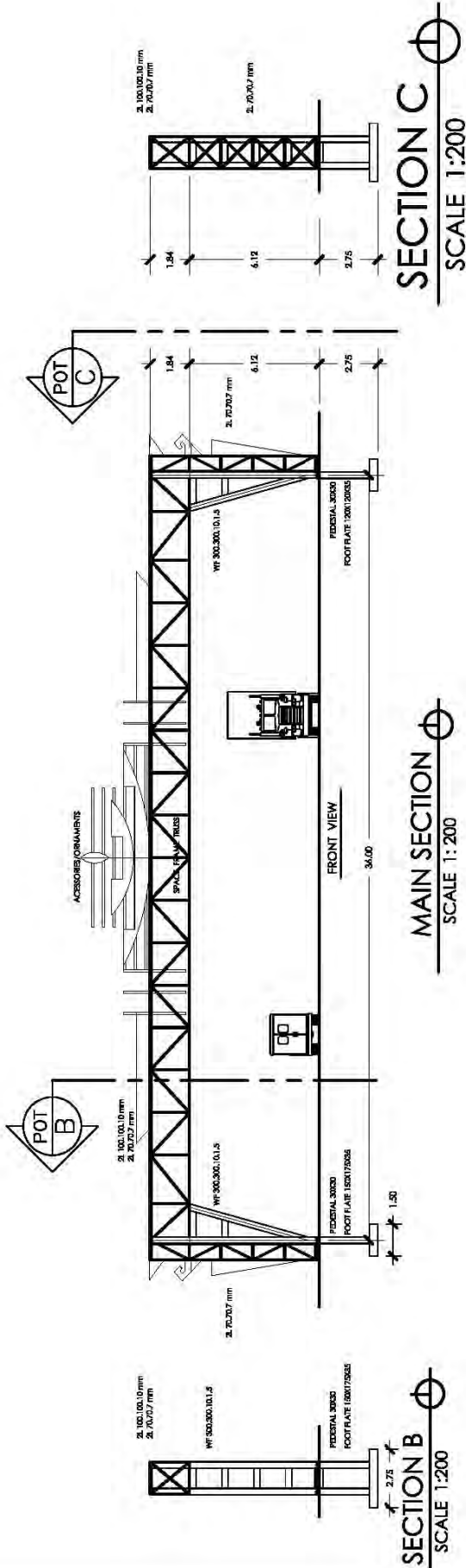
ELECTRICAL POWER STATION

PLAN, VIEWS AND SECTION

SCALE
1 : 100

NO
--

NOTE



DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET
(Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)

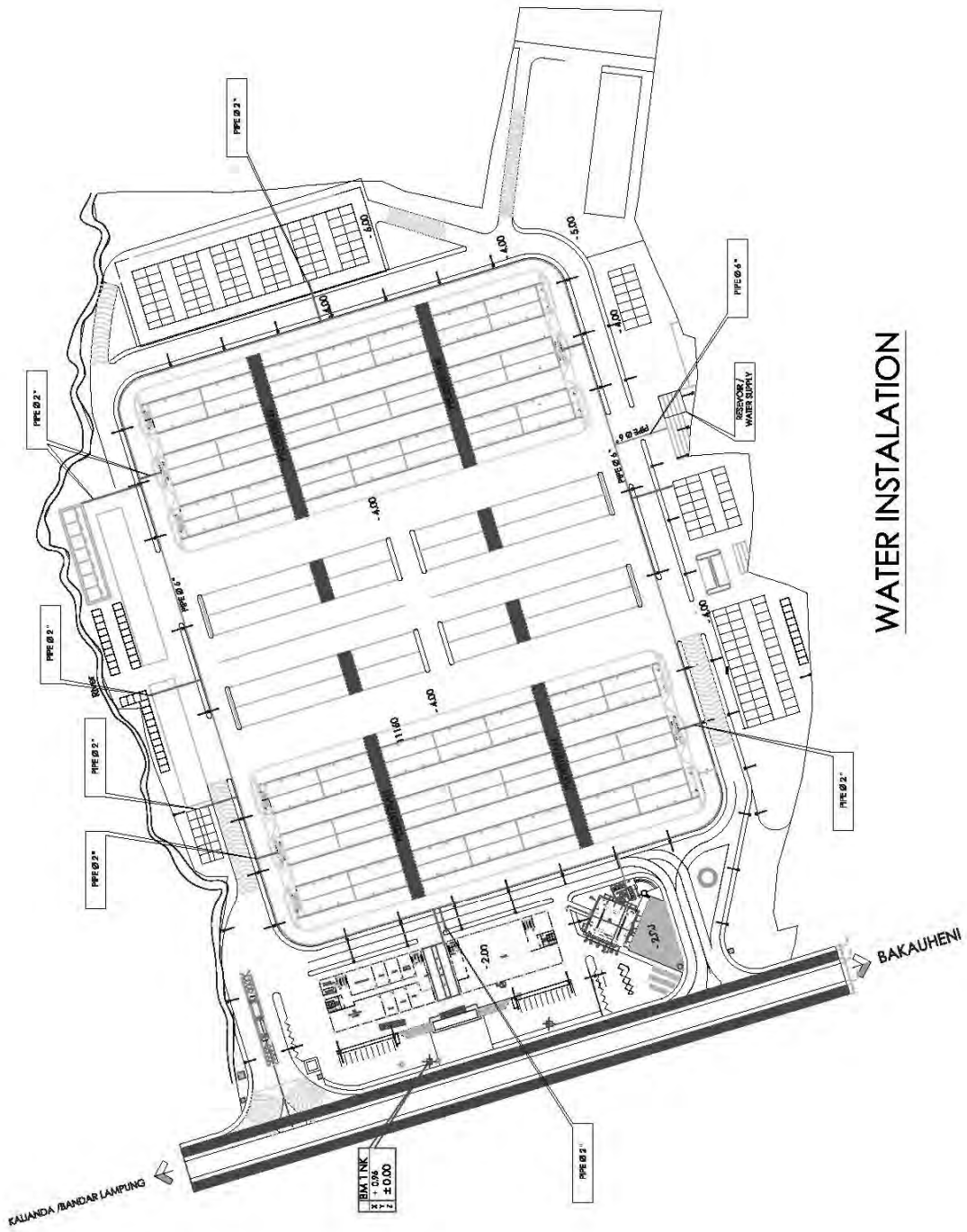
MAIN GATE

VIEW AND SECTIONS

SCALE
1 : 200

NO

NOTE



WATER INSTALATION

SCALE	NO	NOTE
	01	

DISTRIBUTION MECHANISM REFORM THROUGH DEVELOPMENT OF WHOLESALE MARKET
 (Improvement of Post Harvest Handling and Marketing Facilities) (Agriculture)

MASTER PLAN
 WATER INSTALATION

BLOCK PLAN

Annex-4 Bill of Quantity of the Project

RECAPITULATION BILL OF QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION

LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

NO	DESCRIPTION	VOLUME	UNIT	PRICE (Rp.)	TOTAL (Rp)
A	PREPARATION AND LAND CLEARING WORKS				11,067,838,033.48
B	BUILDING				
1	MARKETING HALL CONSTRUCTION	27,306.00	M2	2,119,825.75	57,883,962,000.89
2	ADMINISTRATION OFFICE CONSTRUCTION	5,088.00	M2	2,400,520.08	12,213,846,182.36
3	WAREHOUSE STORAGE	540.00	M2	1,861,107.44	1,004,998,014.90
4	COLD STORAGE	378.00	M2	1,897,438.03	717,231,577.20
5	WORKSHOP WOODEN CRATE	1,134.00	M2	1,748,599.54	1,982,911,883.49
6	CANTEENS AND ACCOMODATION	480.00	M2	2,429,326.32	1,166,076,633.60
7	MOSQUE CONSTRUCTION	285.00	M2	2,591,772.21	738,655,078.90
8	TRUCK SCALE	1.00	UNIT		556,776,554.73
C	ELECTRIC POWER SUPPLAY SYSTEM				2,278,032,532.20
D	PLUMBING WORKS				13,866,601,061.08
E	ROAD, PARKING, FENCE, LANDSCAPING				18,626,097,074.56
F	BUILDING EQUIPMENTS				3,835,268,585.00
G	OTHER EQUIPMENTS				11,178,994,000.00
TOTAL CONSTRUCTION				Rp.	137,117,289,212.39
CONSULTANT SERVICES (2,72%)				Rp.	3,729,590,266.58
SUPERVISION (1,78%)				Rp.	2,440,687,747.98
ADMINISTRATION PROJECT (0,58%)				Rp.	795,280,277.43
GENERAL CONSTRUCTION AND CONSULTANT SERVICES				Rp.	144,082,847,504.38
PPN (10%)				Rp.	14,408,284,750.44
LAND ACQUISITION				Rp.	10,055,000,000.00
TOTAL + PPN + LAND ACQUISITION				Rp.	168,546,132,254.82
ROUNDED				Rp.	168,546,132,000.00

RECAPITULATION BILL OF QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION

LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

NO	DESCRIPTION	VOLUME	UNIT PRICE (Rp.)	TOTAL (Rp)
I	PREPARATION AND LAND CLEARING WORKS			
	A. PREPARATION AND DEMOLITION			356,709,700.00
	B. GROUND LEVELING WORKS (CUT AND FILL)			8,099,099,941.86
	C. RETAINING WALL FROM STONE MASONRY	4,497.92 M3	580,719.18	2,612,028,391.62
II	MARKETING HALL CONSTRUCTION			
	TYPE 1 (DIMENSIONS : 60 x 186 M = 2 UNIT)	22,320.00 M2	2,158,180.59	48,170,590,819.33
	TYPE 2 (DIMENSIONS : 27 x 102 M)	2,754.00 M2	1,948,129.00	5,365,147,259.13
	TYPE 3 (DIMENSIONS : 24 x 54 M)	1,296.00 M2	1,948,129.00	2,524,775,180.77
	TYPE 4 (DIMENSIONS : 24 x 27 M)	648.00 M2	1,948,129.00	1,262,387,590.38
	TYPE 5 (DIMENSIONS : 24 x 12 M)	288.00 M2	1,948,129.00	561,061,151.28
III	ADMINISTRATION OFFICE CONSTRUCTION	5,088.00 M2	2,400,520.08	12,213,846,182.36
IV	WAREHOUSE STORAGE	540.00 M2	1,861,107.44	1,004,998,014.90
V	COLD STORAGE	378.00 M2	1,897,438.03	717,231,577.20
VI	WORKSHOP WOODEN CRATE	1,134.00 M2	1,748,599.54	1,982,911,883.49
VII	ELECTRIC POWER SUPPLY SYSTEM			
	A. OUTSIDE ELECTRICITY INSTALATION AND TRANSFORMERS (250 KVA)			934,232,500.00
	B. LIGHT POLES AND GARDEN LIGHTS INSTALATION			708,349,300.13
	C. GENERATOR PROCUREMENT (250 KVA, 200 KW)	1.00 UNIT	322,294,900.00	322,294,900.00
	D. GENERATOR HOUSE			103,593,672.07
	E. INSTALATION LIGHTNING PROTECTION			209,562,160.00
VIII	WATER SUPPLY SYSTEM			
	A. DEEP WELL CONSTRUCTION WORK H=70 M AND WATER PUMP Q=5 L/SEC	2.00 UNIT	275,489,816.10	550,979,632.20
	B. GROUND WATER RESERVOAR (200 M3)	1.00 UNIT		410,003,600.00
	C. CENTRIFUGAL PUMP PROCUREMENT H=50 M, Q=5 L/SEC	3.00 UNIT	72,000,000.00	216,000,000.00
	D. WATER SUPPLY PIPE INSTALATION			950,000,000.00
	E. ELEVATED WATER TANK			633,000,000.00
IX	WASTE WATER TREATMENT FACILITIES			
	A. DRAINAGE CHANNEL			4,093,171,310.16
	B. WASTE WATER TREATMENT INSTALATIONS (IPAL)	8.00 UNIT	82,471,818.34	659,774,546.72
	C. GARBAGE COLLECTION/RECYCLING FACILITIES/TPS (COMPOST)	600.00 M2	2,033,786.62	1,220,271,972.00
	D. EQUIPMENTS (DUMP TRUCK, CONTAINER, MOTOR, BIN)			5,133,400,000.00

NO	DESCRIPTION	VOLUME	UNIT	PRICE (Rp.)	TOTAL (Rp)
X	ROAD AND PARKING FOR LOADING/SHIPPING				
	A. RIGID PAVEMENT	31,242.47	M2	438,196.59	13,690,341,532.47
	B. PAVING BLOCK	13,526.61	M2	112,080.80	1,516,073,270.09
XI	MOSQUE CONSTRUCTION	285.00	M2	2,591,772.21	738,655,078.90
XII	CANTEENS AND ACCOMODATION	480.00	M2	2,429,326.32	1,166,076,633.60
XIII	FENCE AND GATE				
	A. FENCE	1,450.00	M'	1,032,184.28	1,496,667,211.08
	B. GATE	2.00	UNIT	350,000,000.00	700,000,000.00
	C. SECURITY POST	2.00	UNIT	68,248,730.47	136,497,460.93
XIV	TRUCK SCALE	1.00	UNIT		556,776,554.73
XV	GARDEN AND GREEN AREA WORKS				1,086,517,600.00
XVI	BUILDING EQUIPMENTS				
	A. FIBERGLASS WASHING BOX OF MARKETING HALL				983,956,000.00
	B. OFFICE FURNITURE				849,911,600.00
	C. WAREHOUSE STORAGE EQUIPMENT				895,000,000.00
	D. COLD STORAGE EQUIPMENT				717,472,985.00
	E. WORKSHOP WOODEN BOX EQUIPMENT				25,000,000.00
	F. GARBAGE COLLECTION/RECYCLING FACILITES (TPS) EQUIPMENT				149,100,000.00
	G. MOSQUE EQUIPMENT				19,000,000.00
	H. CANTEEN AND ACCOMODATION FURNITURE				165,228,000.00
	I. SECURITY POST EQUIPMENT				30,600,000.00
TOTAL CONSTRUCTION				Rp.	125,938,295,212.39
CONSULTANT SERVICES (2,72%)				Rp.	3,425,521,629.78
SUPERVISION (1,78%)				Rp.	2,241,701,654.78
ADMINISTRATION PROJECT (0,58%)				Rp.	730,442,112.23
GENERAL CONSTRUCTION AND CONSULTANT SERVICES				Rp.	132,335,960,609.18
PPN (10%)				Rp.	13,233,596,060.92
TOTAL + PPN				Rp.	145,569,556,670.10
APPROXIMATELY				Rp.	145,569,556,000.00

BILL OF QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION
LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

I PREPARATION AND LAND CLEARING WORKS

A. PREPARATION AND LAND CLEARING WORKS

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
1	Mobilization and Demobilization	Ls	1.00	Ls	21,000,000.00	21,000,000.00
2	Temporary Fence of the Zinc Wave T= 2 m	Analysis A.2	800.00	M'	109,919.50	87,935,600.00
3	Clearing Works	Ls	2,530.00	M2	52,500.00	132,825,000.00
4	Rigid concrete road demolition work	Ls	1,200.00	M2	37,500.00	45,000,000.00
5	Measurement work	Ls	1.00	Ls	13,500,000.00	13,500,000.00
6	Making direction keet	Analysis A.5	24.00	M2	1,093,782.50	26,250,780.00
7	Materials and tools storage	Analysis A.6	48.00	M2	618,715.00	29,698,320.00
8	Project board Installation	Ls	1.00	Unit	500,000.00	500,000.00
TOTAL A						356,709,700.00

B. LEVELING LAND (CUT AND FILL)

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
1	Digging work	K.321	49,037.79	M3	25,645.40	1,257,593,771.72
2	Soil pile and compaction work (local soil)	K.221	125,242.92	M3	32,569.13	4,079,052,861.64
3	heap of soil (soil that was imported)	Ls	51,156.54	M3	54,000.00	2,762,453,308.50
TOTAL B						8,099,099,941.86

C. EMBUNKMENT WORK

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
Embunkment volume for 1 M3						
1	Measurement and construction board	Analysis A.4	0.13	M'	45,825.00	5,728.13
2	Digging soil	Analysis B.2	0.53	M3	34,425.00	18,245.25
3	Back fill	Analysis B.9	0.00	M3	9,270.00	0.00
4	Stone masonry work	Analysis C.2	1.00	M3	545,425.00	545,425.00
5	Plaster	Analysis E.9	0.20	M2	33,281.50	6,656.30
6	Finishing wall	Analysis E.27	0.20	M2	23,322.50	4,664.50
Price per 1 M3						580,719.18
TOTAL EMBUNKMENT WORKS			4,497.92	M3	580,719.18	2,612,028,391.62

BILL OF QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION
LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

II MARKETING HALL CONSTRUCTION

A TYPE 1

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
A	CALCULATION FOR MARKETING HALL BUILDING, DIMENSION 8 x 60 M = 480 M2					
I	LAND WORKS					
1	Digging soil for poundation	Analysis B.3	10.80	M3	41,105.00	443,934.00
2	Back fill	Analysis B.9	7.34	M3	9,270.00	68,060.34
3	Heap soil and Elevation Floor work	Analysis B.17	96.48	M3	75,175.00	7,252,884.00
4	Back fill for floor	Analysis B.11	48.24	M3	122,750.00	5,921,460.00
	Total I					13,686,338.34
II	STRUCTURE WORKS					
A	Concrete work					
1	Foot plate lean concrete f'c = 9,8 Mpa	Analysis G.2	49.04	M3	766,210.00	37,574,938.40
2	Bored pile	TP1	75.00	M1	106,568.00	7,992,600.00
3	Bored pile concrete requirement dia. 40 cm	TP.2	75.00	M1	555,108.00	41,633,100.00
4	Beton Foot plate concrete 1.8 x 0.8 x 0.35 f'c = 19,3 Mpa	Analysis G.7	1.01	M3	860,887.50	867,774.60
5	Beton Foot plate concrete 1.8 x 1.8 x 0.35 f'c = 19,3 Mpa	Analysis G.7	2.14	M3	860,887.50	1,844,021.03
6	Foot plate concrete 0.5x0.5 f'c = 19,3 Mpa	Analysis G.7	1.65	M3	860,887.50	1,420,464.38
7	Column structure 45 x 45 f'c = 19,3 Mpa	Analysis G.7	5.56	M3	860,887.50	4,785,673.61
8	Structure tie beam reinforced concrete S1 dim. 30/50 f'c =	Analysis G.7	13.80	M3	860,887.50	11,880,247.50
9	Floor reinforced concrete T=10 cm, f'c = 19,3 Mpa	Analysis G.7	28.80	M3	860,887.50	24,793,560.00
10	Floor reinforced concrete T=20 cm, f'c = 31,2 Mpa	Analysis G.12	38.80	M3	951,106.00	36,902,912.80
B	Wermes					
1	Foot plate concrete 1.8x0.8x0.35 f'c = 19,3 Mpa	Analysis G.14	103.56	Kg	16,688.00	1,728,230.48
2	Foot plate concrete 1.8 x 1.8 x 0.35 f'c = 19,3 Mpa	Analysis G.14	220.07	Kg	16,688.00	3,672,489.77
3	Foot plate concrete 0.5x0.5 f'c = 19,3 Mpa	Analysis G.14	10.05	Kg	16,688.00	167,794.75
4	Column structure 45 x 45 f'c = 19,3 Mpa	Analysis G.14	33.88	Kg	16,688.00	565,315.77
5	Structure tie beam reinforced concrete S1 30/50 f'c = 19,3	Analysis G.14	1,872.27	Kg	16,688.00	31,244,374.92
6	Floor reinforced concrete T = 10 cm	Analysis G.14	1,893.44	Kg	16,688.00	31,597,726.72
7	Floor reinforced concrete T = 20 cm	Analysis G.14	1,405.44	Kg	16,688.00	23,453,982.72
C	Formwork					
1	Foot plate concrete 1.8x0.8x0.35 f'c = 19,3 Mpa			M2		
2	Foot plate concrete 0.5x0.5 f'c = 19,3 Mpa	Analysis G.19	14.67	M2	170,125.00	2,495,166.67
3	Structure tie beam reinforced concrete S1 uk. 30/50 f'c = 1	Analysis G.18	92.00	M2	131,000.00	12,052,000.00
4	Column structure 45 x 45 f'c = 19,3 Mpa	Analysis G.19	49.41	M2	170,125.00	8,406,443.33
	Total II					285,078,817.44

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
III Truss and Roof works						
1	Steel truss pole IWF 300x300x10x15 (C1)	Analysis K2+K3	2,820.00	Kg	25,092.25	70,760,145.00
2	Steel joint stiffner IWF 300x150x6.5x9	Analysis K2+K3	1,174.40	Kg	25,092.25	29,468,338.40
3	Iron purlin C 200x75x20x3.2 (P)	Analysis K2+K3	4,820.40	Kg	25,092.25	120,954,681.90
4	Steel truss L 100,100.10	Analysis K2+K3	8,532.10	Kg	25,092.25	214,089,535.04
5	Steel truss L 70,70.7	Analysis K2+K3	1,661.08	Kg	25,092.25	41,680,273.37
6	Bolt Ø 16	Analysis K2+K3	239.62	Kg	25,092.25	6,012,504.58
7	Base Plat T 22 mm	Analysis K2+K3	127.17	Kg	25,092.25	3,190,981.43
8	Lateral stiffner for purlin Ø 10 mm	Analysis K2+K3	1,727.60	Kg	25,092.25	43,349,371.10
9	Trek stang installation (TR)Ø 19 mm	Analysis K2+K3	75.86	Kg	25,092.25	1,903,425.50
10	Gavalum sheet metal tile installation	Analysis H.28	610.66	M2	110,465.00	67,456,822.02
11	Gavalum sheet metal list plank installation	Analysis H.28	32.00	M'	36,821.67	1,178,293.33
Total III						600,044,371.67
IV Painting works						
1	steel truss pole painting IWF 300x 300x10x15 (C1)	Analysis N.16	54.00	M2	26,962.50	1,455,975.00
2	Steel joint stiffner IWF 300x150x6.5x9	Analysis N.16	38.40	M2	26,962.50	1,035,360.00
3	Iron purlin painting C 200 x 75 x 20 x 3.2 (P)	Analysis N.16	1809.60	M2	26,962.50	48,791,340.00
4	Steel truss painting L 100,100.10	Analysis N.16	226.02	M2	26,962.50	6,093,952.09
5	Steel truss painting L 70.70.7	Analysis N.16	63.02	M2	26,962.50	1,699,232.40
Total IV						59,075,859.49
V Electrical installation works						
1	Electrical cable installation	Analysis O.5	30.00	TTk	188,470.00	5,654,100.00
2	TL Lamp 1 x 80 Watt Reflector Grill	H. Satuan	30.00	Bh	300,000.00	9,000,000.00
3	Triple Switch	Analysis O.1	10.00	Bh	97,720.00	977,200.00
4	Single Switch and Stop contact	Ls	5.00	Bh	75,720.00	378,600.00
5	DP box 1 Phase completely	Ls	1.00	Bh	2,500,000.00	2,500,000.00
Total V						18,509,900.00
TOTAL COST FOR 480 M2 (I+II+III+IV+V)						976,395,286.93
B BUILDING CALCULATION TOILET MARKETING HALL FOR DIMENSION 3 x 60 M = 180 M2						
I Land Works						
1	Digging soil for poundation	Analysis B.3	73.44	M3	41,105.00	3,018,751.20
2	Back fill	Analysis B.9	68.97	M3	9,270.00	639,388.98
3	Back fill for floor	Analysis B.17	96.48	M3	75,175.00	7,252,884.00
4	Back fill for floor	Analysis B.11	48.24	M3	122,750.00	5,921,460.00
Total I						16,832,484.18
II Structure Works						
A Concrete Works						
1	Foot plate Lean concretef'c = 9,8 Mpa	Analysis G.2	7.28	M3	766,210.00	5,581,303.50
2	Stone masonry 1:4	Analysis C.2	22.19	M3	545,425.00	12,100,253.63

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
3	Aanstamping	Analysis C.6	13.92	M3	291,801.00	4,061,869.92
4	Bored pile	Supl.-BP.1	45.00	M1	254,870.00	11,469,150.00
5	Pile concrete Ø 35 cm	Analysis G.55	4.33	M3	4,644,057.10	20,104,123.19
6	Foot plate concrete 1.8 x 0.8 x 0.35 f'c = 19,3 Mpa	Analysis G.7	2.02	M3	860,887.50	1,735,549.20
7	Foot plate concrete 0.5x0.5 f'c = 19,3 Mpa	Analysis G.7	1.65	M3	860,887.50	1,420,464.38
8	Reinforced concrete K225 for KP Dim. 11/11	Analysis G.7	3.85	M3	860,887.50	3,312,522.92
9	Reinforced concrete Tie beam structure S1 uk.30/50 f'c =	Analysis G.7	9.00	M3	860,887.50	7,747,987.50
10	Reinforced concrete Tie beam structure S2 uk. 15/20 f'c =	Analysis G.7	2.61	M3	860,887.50	2,246,916.38
11	Reinforced concrete Balok Struktur uk. 15/25 f'c = 19,3 Mpa	Analysis G.7	1.01	M3	860,887.50	871,648.59
12	Reinforced concrete Dak T=12 cm f'c = 19,3 Mpa	Analysis G.7	3.04	M3	860,887.50	2,619,129.69
13	Floor reinforced concrete T=20 cm f'c = 31,2 Mpa	Analysis G.12	12.97	M3	951,106.00	12,334,513.27
B Wermes						
1	Foot plate concrete 1.8x0.8x0.35 f'c = 19,3 Mpa	Analysis G.14	207.12	Kg	16,688.00	3,456,460.96
2	Foot plate concrete 0.5x0.5 f'c = 19,3 Mpa	Analysis G.14	10.05	Kg	16,688.00	167,794.75
3	Reinforced concrete K225 for KP Dim. 11/11	Analysis G.14	938.54	Kg	16,688.00	15,662,389.23
4	Reinforced concrete Tie beam structure S1 uk. 30/50 f'c =	Analysis G.14	1,221.04	Kg	16,688.00	20,376,766.25
5	Reinforced concrete Tie beam structure S2 uk. 15/20 f'c =	Analysis G.14	351.25	Kg	16,688.00	5,861,694.38
6	Reinforced concrete Balok Struktur uk. 15/25 f'c = 19,3 Mpa	Analysis G.14	132.11	Kg	16,688.00	2,204,573.75
7	Reinforced concrete Dak T=12 cm f'c = 19,3 Mpa	Analysis G.14	417.14	Kg	16,688.00	6,961,255.02
8	Floor reinforced concrete T=20 cm f'c = 31,2 Mpa	Analysis G.14	792.25	Kg	16,688.00	13,221,097.60
C Formwork						
1	Foot plate concrete 0.5x0.5 f'c = 19,3 Mpa	Analysis G.19	14.67	M2	170,125.00	2,495,166.67
2	Reinforced concrete K225 for KP Dim. 11/11	Analysis G.19	139.92	M2	170,125.00	23,803,890.00
3	Reinforced concrete Tie beam structure S1 uk. 30/50 f'c =	Analysis G.18	60.00	M2	131,000.00	7,860,000.00
4	Reinforced concrete Tie beam structure S2 uk. 15/20 f'c =	Analysis G.18	34.80	M2	131,000.00	4,558,800.00
5	Reinforced concrete Balok Struktur uk. 15/25 f'c = 19,3 Mpa	Analysis G.20	132.11	M2	179,125.00	23,663,367.24
6	Reinforced concrete Dak T=12 cm f'c = 19,3 Mpa	Analysis G.21	25.35	M2	234,125.00	5,935,771.13
Sub Total II						221,834,459.13
III Truss and Roof works						
1	Steel truss pole IWF 300 x 300 x 10 x 15 (C1)	Analysis K2+K3	2,820.00	Kg	25,092.25	70,760,145.00
2	Steel joint stiffner IWF 300 x 150 x 6.5 x 9	Analysis K2+K3	440.40	Kg	25,092.25	11,050,626.90
3	Iron purlin C 200 x 75 x 20 x 3.2 (P)	Analysis K2+K3	1,807.65	Kg	25,092.25	45,358,005.71
4	Steel truss L 100,100.10	Analysis K2+K3	8,532.10	Kg	25,092.25	214,089,535.04
5	Steel truss L 70.70.7	Analysis K2+K3	1,661.08	Kg	25,092.25	41,680,273.37
6	Bolt Ø 16	Analysis K2+K3	239.62	Kg	25,092.25	6,012,504.58
7	Base Plat T 22 mm	Analysis K2+K3	127.17	Kg	25,092.25	3,190,981.43
8	Lateral stiffner for purlin Ø 10 mm	Analysis K2+K3	647.85	Kg	25,092.25	16,256,014.16
9	Trek Stang Ø 19 mm	Analysis K2+K3	75.86	Kg	25,092.25	1,903,425.50
10	Galvalum Sheet Metal	Analysis H.28	229.00	M2	110,465.00	25,296,308.26
11	Galvalum sheet metal list plank	Analysis H.28	12.00	M'	36,821.67	441,860.00
Sub Total III						436,039,679.95

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
IV	Installation works					
1	Brick Masonry 1:5 for Wall	Analysis D.9	87.29	M2	56,600.00	4,940,337.79
2	Brick Masonry 1:2 for Wall	Analysis D.7	62.39	M2	64,170.00	4,003,879.45
3	Plaster 1:5	Analysis E.10	299.36	M2	33,281.50	9,963,149.84
4	Finishing wall	Analysis E.27	299.36	M2	23,322.50	6,981,823.60
	Sub Total IV					25,889,190.68
V	Sills Door And Window Works					
1	Alluminium Sills for Door and Window	Analysis K.9	149.68	M1	100,609.50	15,059,229.96
2	Alluminium Door Leap	H. Satuan	8.00	Unit	250,000.00	2,000,000.00
3	Glass 3 mm thickness	Analysis L.15	12.67	M2	119,723.75	1,517,139.36
4	Door Leap Plywood Layer 3 mm thickness	Analysis F.12	6.40	M2	391,475.00	2,505,440.00
5	Door Hinge	Analysis L.5	12.00	Bh	44,727.00	536,724.00
6	Key Planted Regular	Analysis L.2	4.00	Bh	103,775.00	415,100.00
7	Planted For Bathroom	Analysis L.3	8.00	Bh	63,137.50	505,100.00
8	Door handle	H. Satuan	4.00	Bh	75,000.00	300,000.00
	Sub Total V					22,838,733.32
VI	Cieling Works					
1	Gypsum Cieling and Cieling Frame (Hollow)	Analysis F.42	99.59	M2	140,000.00	13,942,628.00
	Sub Total VI					13,942,628.00
VII	Ceramics works					
1	Ceramics dimension 30 x 30 cm	Analysis M.25	86.34	M2	133,699.15	11,543,450.91
2	Ceramics dimension 20 x 20 cm	Analysis M.26	13.25	M2	104,842.50	1,389,288.94
3	Wall Ceramics dimension 20 x 20 cm	Analysis M.43	62.39	M2	119,982.50	7,486,293.69
	Sub Total VII					20,419,033.54
VIII	Painting works					
1	steel truss pole painting IWF 300x300x10x15 (C1)	Analysis N.16	54.00	M2	26,962.50	1,455,975.00
2	Steel joint stiffner IWF 300x150x 6.5x9	Analysis N.16	14.40	M2	26,962.50	388,260.00
3	Iron purlin painting C 200 x 75 x 20 x 3.2 (P)	Analysis N.16	678.60	M2	26,962.50	18,296,752.50
4	Steel truss painting L 100,100.10	Analysis N.16	226.02	M2	26,962.50	6,093,952.09
5	Steel truss painting L 70.70.7	Analysis N.16	63.02	M2	26,962.50	1,699,232.40
6	Wall Painting	Analysis N.11	299.36	M2	16,855.50	5,045,862.48
7	Cieling Painting	Analysis N.11	99.59	M2	16,855.50	1,678,642.62
	Sub Total VIII					34,658,677.08
IX	Plumbing Works					
1	Clean Water Installation PVC 2" Input	Analysis J.29	18.00	M'	24,993.00	449,874.00
2	Clean Water Installation PVC 1/2" Devided	Analysis J.25	6.00	M'	15,208.88	91,253.28
3	Clean Water Installation PVC 3/4" Output	Analysis J.26	48.00	M'	16,662.00	799,776.00
4	Waste Water Installation PVC 2"	Analysis J.29	16.00	M'	24,993.00	399,888.00
5	Waste Water Installation PVC 4"	Analysis J.31	24.00	M'	74,787.00	1,794,888.00

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
6	Washtafel	Analysis J.5	4.00	Unit	922,100.00	3,688,400.00
7	Water Faucet Ø 1/2 "	H. Satuan	8.00	Bh	25,000.00	200,000.00
8	Squatting porcelain	Analysis J.2	4.00	Bh	425,750.00	1,703,000.00
9	Floor Drain	H. Satuan	8.00	Bh	20,000.00	160,000.00
10	Plastic Bathtub	H. Satuan	8.00	Bh	250,000.00	2,000,000.00
11	Control Tube 60 x 60 x 65	Analysis J.16	4.00	Unit	297,980.00	1,191,920.00
	Sub Total IX					12,478,999.28
X	Electrical installation works					
1	Electrical cable installation	Analysis O.5	26.00	TTk	188,470.00	4,900,220.00
2	TL Lamp 1 x 80 Watt Reflector Grill	H. Satuan	4.00	Bh	300,000.00	1,200,000.00
3	SL Lamp 18 Watt + Accesories	H. Satuan	22.00	Bh	95,000.00	2,090,000.00
4	Single Switch	Analysis O.3	10.00	Bh	57,720.00	577,200.00
5	Triple Switch	Analysis O.1	1.00	Bh	97,720.00	97,720.00
6	Single Switch and Stop contact	Analysis O.6	4.00	Bh	75,720.00	302,880.00
	Sub Total X					9,168,020.00
						814,101,905.16
BUILDING COST CALCULATION PER M2						
A	CALCULATION FOR MARKETING HALL BUILDING Dim. 8 x 60 M = 480 M2					976,395,286.93
	MARKETING HALL BUILDING AREA = 180 x 60 M = 10.800 M2					22,457,091,599.35
B	MARKETING HALL BATHROOM CALCULATING for Dim. 3 x 60 M = 180 M2					814,101,905.16
	MARKETING HALL BUILDING AREA = 6 x 60 M = 360 M2					1,628,203,810.32
	TOTAL AREA OF MARKETING HALL BUILDING AND BATHROOM (10.800 M2 + 360 M2 = 11160 M2)					24,085,295,409.66
	MARKETING HALL BUILDING PRICE TYPE 1 PER M2					2,158,180.59

II MARKETING HALL CONSTRUCTION

B TYPE 2, TYPE 3, TYPE 4 DAN TYPE 5

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
	CALCULATION FOR MARKETING HALL BUILDING TYPE 2 Dim. 8 x 24 M = 192 M2					
I	Land Works					
1	Digging soil for poudation	Analysis B.3	3.89	M3	41,105.00	159,816.24
2	Back fill	Analysis B.9	2.65	M3	9,270.00	24,546.96
3	Back fill for floor	Analysis B.17	96.48	M3	75,175.00	7,252,884.00
4	Back fill for floor	Analysis B.11	48.24	M3	122,750.00	5,921,460.00
	Sub Total I					13,358,707.20
II	Structure Works					
A	Concrete Works					
1	Lean concrete poudation and floor f'c = 9,8 Mpa	Analysis G.2	19.49	M3	766,210.00	14,931,900.48
2	Foot plate concrete 1.5 x 1.5 x 0.35 f'c = 19,3 Mpa	Analysis G.7	0.70	M3	860,887.50	602,621.25
3	Foot plate concrete 0.3x0.3 f'c = 19,3 Mpa	Analysis G.7	0.25	M3	860,887.50	216,943.65

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
4	Column structure 0.3 x 0.3 f'c = 19,3 Mpa	Analysis G.7	1.80	M3	860,887.50	1,549,597.50
5	Structure tie beam reinforced concrete S1 uk. 30/50 f'c = 19,3 Mpa	Analysis G.7	8.40	M3	860,887.50	7,231,455.00
6	Floor reinforced concrete T=10 cm f'c = 22,5 Mpa	Analysis G.7	19.20	M3	860,887.50	16,529,040.00
B Wermes						
1	Foot plate concrete 1.5 x 1.5 x 0.35 f'c = 19,3 Mpa	Analysis G.14	67.81	Kg	16,688.00	1,131,559.27
2	Pas. Beton Pedestal 0.3x0.3 f'c = 19,3 Mpa	Analysis G.14	35.46	Kg	16,688.00	591,725.95
3	Column structure 0.3 x 0.3 f'c = 19,3 Mpa	Analysis G.14	253.27	Kg	16,688.00	4,226,613.96
4	Structure tie beam reinforced concrete S1 uk. S1 30/50 f'c	Analysis G.14	1,139.64	Kg	16,688.00	19,018,315.17
5	Floor reinforced concrete T= 10 cm	Analysis G.14	937.13	Kg	16,688.00	15,638,825.44
C Formwork						
1	Foot plate concrete 0.3x0.3 f'c = 19,3 Mpa	Analysis G.19	3.36	M2	170,125.00	571,620.00
2	Column structure 0.3 x 0.3 f'c = 19,3 Mpa	Analysis G.19	24.00	M2	170,125.00	4,083,000.00
3	Structure tie beam reinforced concrete S1 uk. S1 30/50 f'c	Analysis G.18	56.00	M2	131,000.00	7,336,000.00
4	Column structure 45 x 45 f'c = 19,3 Mpa	Analysis G.19	16.00	M2	170,125.00	2,722,000.00
Sub Total II						96,381,217.68
III Truss and Roof works						
1	Steel truss pole IWF 300x300x10x15 (C1)	Analysis K2+K3	940.00	Kg	25,092.25	23,586,715.00
2	Steel joint stiffner IWF 300x150x6.5x9	Analysis K2+K3	587.20	Kg	25,092.25	14,734,169.20
3	Iron purlin C 200 x 75 x 20 x 3.2 (P)	Analysis K2+K3	1,631.52	Kg	25,092.25	40,938,507.72
4	Steel truss L 100.100.10	Analysis K2+K3	3,884.38	Kg	25,092.25	97,467,717.13
5	Bolt Ø 16	Analysis K2+K3	239.62	Kg	25,092.25	6,012,504.58
6	Base Plat T 22 mm	Analysis K2+K3	28.26	Kg	25,092.25	709,106.99
7	Lateral stiffner for purlin Ø 10 mm	Analysis K2+K3	681.17	Kg	25,092.25	17,092,037.75
8	Trek stang installation (TR) Ø 19 mm	Analysis K2+K3	75.86	Kg	25,092.25	1,903,425.50
9	Gavalum sheet meta Gavalum sheet metal tile installation	Analysis H.28	257.70	M2	110,465.00	28,467,272.36
10	Gavalum sheet metal list plank installation	Analysis H.28	80.43	M'	36,821.67	2,961,419.36
Sub Total III						233,872,875.58
IV Painting works						
1	steel truss pole painting IWF 300x300x10x15 (C1)	Analysis N.16	18.00	M2	26,962.50	485,325.00
2	Steel joint stiffner IWF 300 x 150 x 6.5 x 9	Analysis N.16	19.20	M2	26,962.50	517,680.00
3	Iron purlin painting C 200 x 75 x 20 x 3.2 (P)	Analysis N.16	612.48	M2	26,962.50	16,513,992.00
4	Steel truss painting L 100.100.10	Analysis N.16	102.90	M2	26,962.50	2,774,370.07
Sub Total IV						20,291,367.07
V Electrical installation works						
1	Electrical cable installation	Analysis O.5	20.00	TTk	188,470.00	3,769,400.00
2	TL Lamp 1 x 80 Watt Reflector Grill	H. Satuan	10.00	Bh	300,000.00	3,000,000.00
3	Triple Switch	Analysis O.1	5.00	Bh	97,720.00	488,600.00
4	Single Switch dan Stop kontak	Ls	5.00	Bh	75,720.00	378,600.00
5	DP box 1 Phase completely	Ls	1.00	Bh	2,500,000.00	2,500,000.00
Sub Total V						10,136,600.00
TOTAL BIAYA (I+II+III+IV+V)						374,040,767.52
TOTAL AREA CALCULATED (8 x 24) = 192 M2						192.00
BULDING PRICE PER M2						1,948,129.00

BILL OF QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION

LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

III ADMINISTRATION OFFICE CONSTRUCTION

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	COEF.	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
I Preparation Works							
1	Measurement and construction board	Analysis A.4	308.00	M'	1	45,825.00	14,114,100.00
Total I							14,114,100.00
II Land Works							
1	Digging soil for poudation	Analysis B.3	935.36	M3	1	41,105.00	38,447,972.80
2	Back fill	Analysis B.9	888.20	M3	1	9,270.00	8,233,614.00
3	Back fill for floor	Analysis B.17	523.49	M3	1	75,175.00	39,353,210.40
4	Sand Badding	Analysis B.11	261.74	M3	1	122,750.00	32,129,076.00
Total II							118,163,873.20
III Structure Works							
A Ground Floor Concrete Works							
1	Foot plate Lean concrete f'c = 9,8 Mpa	Analysis G.2	16.00	M3	1	766,210.00	12,259,360.00
2	Foundation 1:4	Analysis C.2	251.94	M3	1	545,425.00	137,414,374.50
3	Foot Plate Reinforced Concrete 1.5 x 1.5 x 0.4 f'c = 19,3 Mpa	Analysis G.7	57.60	M3	1	860,887.50	49,587,120.00
4	Foot Plate Reinforced Concrete 2 x 2 x 0.4 f'c = 19,3 Mpa	Analysis G.7	12.80	M3	1	860,887.50	11,019,360.00
5	Foot plate pole concrete 0.4x0.6 f'c = 19,3 Mpa	Analysis G.7	30.72	M3	1	860,887.50	26,446,464.00
6	Foot plate pole concrete 0.6x0.6 f'c = 19,3 Mpa	Analysis G.7	5.76	M3	1	860,887.50	4,958,712.00
7	Column structure 0.4 x 0.6 f'c = 19,3 Mpa	Analysis G.7	61.44	M3	1	860,887.50	52,892,928.00
8	Column structure 0.6 x 0.6 f'c = 19,3 Mpa	Analysis G.7	11.52	M3	1	860,887.50	9,917,424.00
9	Reinforced Concrete K225 for KP Dim. 11/11	Analysis G.7	0.97	M3	1	860,887.50	835,060.88
10	Structure tie beam reinforced concrete S1 dim. 40/60	Analysis G.7	11.52	M3	1	860,887.50	9,917,424.00
11	Structure tie beam reinforced concrete S2 dim. 25/40	Analysis G.7	56.40	M3	1	860,887.50	48,554,055.00
12	Structure tie beam reinforced concrete S3 dim. 20/30	Analysis G.7	22.27	M3	1	860,887.50	19,173,686.40
13	Structure beam reinforced concrete B1 dim. 30/50 f'c = 19,3 Mpa	Analysis G.7	72.00	M3	1	860,887.50	61,983,900.00
14	Structure beam reinforced concrete B2 dim. 25/40 f'c = 19,3 Mpa	Analysis G.7	35.80	M3	1	860,887.50	30,819,772.50
15	Structure beam reinforced concrete B3 dim. 20/35 f'c = 19,3 Mpa	Analysis G.7	3.50	M3	1	860,887.50	3,013,106.25
16	Structure beam reinforced concrete B4 dim. 35/65 f'c = 19,3 Mpa	Analysis G.7	10.92	M3	1	860,887.50	9,400,891.50
17	Structure beam reinforced concrete BA dim. 20/30 f'c = 19,3 Mpa	Analysis G.7	38.52	M3	1	860,887.50	33,161,386.50
18	Structure beam reinforced concrete BA1 dim. 20/35 f'c = 19,3 Mpa	Analysis G.7	2.52	M3	1	860,887.50	2,169,436.50
19	Structure beam reinforced concrete BB dim. 25/40 f'c = 19,3 Mpa	Analysis G.7	4.80	M3	1	860,887.50	4,132,260.00
20	Reinforced Concrete foot plate stair 0.8 X 2.5 X 0.3	Analysis G.7	2.40	M3	1	860,887.50	2,066,130.00
21	Reinforced Concrete Pedestal Stair	Analysis G.7	1.00	M3	1	860,887.50	860,887.50
22	Reinforced Concrete for Beam Stair 20/30	Analysis G.7	3.06	M3	1	860,887.50	2,636,381.88

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	COEF.	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
23	Reinforced Concretefor bordes Stair	Analysis G.7	4.20	M3	1	860,887.50	3,619,859.76
24	Reinforced Concretefor Stair Structure	Analysis G.7	10.08	M3	1	860,887.50	8,677,746.00
25	Floor reinforced concrete T=12 cm f'c = 19,3 Mpa	Analysis G.7	288.69	M3	1	860,887.50	248,528,166.08
B Concrete Works Lt Satu							
1	Column structure 0.4 x 0.6 f'c = 19,3 Mpa	Analysis G.7	69.12	M3	1.09	860,887.50	64,859,952.96
2	Column structure 0.6 x 0.6 f'c = 19,3 Mpa	Analysis G.7	12.82	M3	1.09	860,887.50	12,026,116.28
3	Structure beam reinforced concreteB1 dim. 30/50 f'c	Analysis G.7	72.00	M3	1.09	860,887.50	67,562,451.00
4	Structure beam reinforced concreteB2 dim. 25/40 f'c	Analysis G.7	33.60	M3	1.09	860,887.50	31,529,143.80
5	Structure beam reinforced concreteB3 dim.20/35 f'c	Analysis G.7	2.80	M3	1.09	860,887.50	2,627,428.65
6	Structure beam reinforced concreteBA dim.20/30 f'c	Analysis G.7	21.96	M3	1.09	860,887.50	20,606,547.56
7	Floor reinforced concrete T=12 cm slab f'c = 19,3 Mpa	Analysis G.7	104.47	M3	1.09	860,887.50	98,028,589.72
C Wermes Lt dasar							
1	Foot Plate Reinforced Concrete 1.5 x 1.5 x 0.4 f'c = 19,3 Mpa	Analysis G.14	8,718.01	Kg	1	16,688.00	145,486,191.86
2	Foot Plate Reinforced Concrete 2 x 2 x 0.4 f'c = 19,3 Mpa	Analysis G.14	1,530.73	Kg	1	16,688.00	25,544,900.63
3	Foot plate pole concrete 0.4x0.6 f'c = 19,3 Mpa	Analysis G.14	6,232.59	Kg	1	16,688.00	104,009,441.89
4	Foot plate pole concrete 0.6x0.6 f'c = 19,3 Mpa	Analysis G.14	996.09	Kg	1	16,688.00	16,622,793.44
5	Column structure 0.4 x 0.6 f'c = 19,3 Mpa	Analysis G.14	12,465.18	Kg	1	16,688.00	208,018,883.79
6	Column structure 0.6 x 0.6 f'c = 19,3 Mpa	Analysis G.14	1,992.19	Kg	1	16,688.00	33,245,586.88
7	Reinforced Concrete f'c=19,3 Mpa for KP Dim. 11/11	Analysis G.14	212.50	Kg	1	16,688.00	3,546,201.34
8	Structure tie beam reinforced concrete S1 dim. 40/60	Analysis G.14	1,178.31	Kg	1	16,688.00	19,663,617.25
9	Structure tie beam reinforced concrete S2 dim. 25/40	Analysis G.14	6,179.69	Kg	1	16,688.00	103,126,693.42
10	Structure tie beam reinforced concrete S3 dim. 20/30	Analysis G.14	3,775.44	Kg	1	16,688.00	63,004,510.68
11	Structure beam reinforced concrete B1 dim. 30/50 f'c	Analysis G.14	8,288.11	Kg	1	16,688.00	138,312,013.06
12	Structure beam reinforced concrete B2 dim. 25/40 f'c	Analysis G.14	4,768.88	Kg	1	16,688.00	79,583,106.15
13	Structure beam reinforced concrete B3 dim.20/35 f'c	Analysis G.14	445.35	Kg	1	16,688.00	7,431,917.36
14	Structure beam reinforced concrete B4 dim.35/65 f'c	Analysis G.14	1,342.80	Kg	1	16,688.00	22,408,566.30
15	Structure beam reinforced concrete BA dim.20/30 f'c	Analysis G.14	5,148.13	Kg	1	16,688.00	85,912,056.85
16	Structure beam reinforced concrete BA1 dim.20/35 f'c	Analysis G.14	298.11	Kg	1	16,688.00	4,974,899.73
17	Structure beam reinforced concrete BB dim. 25/40 f'c	Analysis G.14	462.74	Kg	1	16,688.00	7,722,271.87
18	Reinforced Concretefoot plate stair 0.8 X 2.5 X 0.3	Analysis G.14	369.86	Kg	1	16,688.00	6,172,251.71
19	Reinforced ConcretePedestal Stair	Analysis G.14	109.69	Kg	1	16,688.00	1,830,488.18
20	Reinforced Concretefor Beam Stair 20/30	Analysis G.14	561.60	Kg	1	16,688.00	9,371,979.55
21	Reinforced Concretefor bordes Stair	Analysis G.14	576.52	Kg	1	16,688.00	9,621,045.86
22	Reinforced Concretefor Stair Structure	Analysis G.14	2,186.69	Kg	1	16,688.00	36,491,446.43
23	Floor reinforced concrete T=12 cm f'c = 31,2 Mpa	Analysis G.14	39,582.38	Kg	1	16,688.00	660,550,696.03
D Wermes Lt Satu							
1	Column structure 0.4 x 0.6 f'c = 19,3 Mpa	Analysis G.14	7,069.85	Kg	1.09	16,688.00	128,600,056.84
2	Column structure 0.6 x 0.6 f'c = 19,3 Mpa	Analysis G.14	1,404.24	Kg	1.09	16,688.00	25,542,946.03
3	Structure beam reinforced concrete B1 dim. 30/50 f'c	Analysis G.14	8,288.11	Kg	1.09	16,688.00	150,760,094.23
4	Structure beam reinforced concrete B2 dim. 25/40 f'c	Analysis G.14	4,475.82	Kg	1.09	16,688.00	81,414,851.39
5	Structure beam reinforced concrete B3 dim.20/35 f'c	Analysis G.14	356.28	Kg	1.09	16,688.00	6,480,631.94
6	Structure beam reinforced concrete BA dim.20/30 f'c	Analysis G.14	2,934.92	Kg	1.09	16,688.00	53,385,912.71

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	COEF.	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
7	Floor reinforced concrete T=12 cm f'c = 19,3 Mpa	Analysis G.14	14,323.61	Kg	1.09	16,688.00	260,545,330.49
E Formwork Lt dasar							
1	Foot plate pole concrete 0.4x0.6 f'c = 19,3 Mpa	Analysis G.19	115.20	M2	1	170,125.00	19,598,400.00
2	Foot plate pole concrete 0.6x0.6 f'c = 19,3 Mpa	Analysis G.19	17.28	M2	1	170,125.00	2,939,760.00
3	Column structure 0.4 x 0.6 f'c = 19,3 Mpa	Analysis G.19	460.80	M2	1	170,125.00	78,393,600.00
4	Column structure 0.6 x 0.6 f'c = 19,3 Mpa	Analysis G.19	69.12	M2	1	170,125.00	11,759,040.00
5	Reinforced ConcreteK225 for KP Dim. 11/11	Analysis G.19	31.68	M2	1	170,125.00	5,389,560.00
6	Structure tie beam reinforced concrete S1 dim. 40/60	Analysis G.18	57.60	M2	1	131,000.00	7,545,600.00
7	Structure tie beam reinforced concrete S2 dim. 25/40	Analysis G.18	451.20	M2	1	131,000.00	59,107,200.00
8	Structure tie beam reinforced concrete S3 dim. 20/30	Analysis G.18	222.72	M2	1	131,000.00	29,176,320.00
9	Structure beam reinforced concrete B1 dim. 30/50 f'c	Analysis G.18	624.00	M2	1	131,000.00	81,744,000.00
10	Structure beam reinforced concrete B2 dim. 25/40 f'c	Analysis G.20	375.90	M2	1	179,125.00	67,333,087.50
11	Structure beam reinforced concrete B3 dim.20/35 f'c	Analysis G.20	45.00	M2	1	179,125.00	8,060,625.00
12	Structure beam reinforced concrete B4 dim.35/65 f'c	Analysis G.20	79.20	M2	1	179,125.00	14,186,700.00
13	Structure beam reinforced concrete BA dim.20/30 f'c	Analysis G.20	513.60	M2	1	179,125.00	91,998,600.00
14	Structure beam reinforced concrete BA1 dim.20/35 f'c	Analysis G.20	32.40	M2	1	179,125.00	5,803,650.00
15	Structure beam reinforced concrete BB dim. 25/40 f'c	Analysis G.20	50.40	M2	1	179,125.00	9,027,900.00
16	Reinforced Concretefoot plate stair 0.8 X 2.5 X 0.3	Analysis G.19	6.86	M2	1	170,125.00	1,166,571.43
17	Reinforced ConcretePedestal Stair	Analysis G.19	6.67	M2	1	170,125.00	1,134,166.67
18	Reinforced Concretefor Beam Stair 20/30	Analysis G.20	30.62	M2	1	179,125.00	5,485,524.00
19	Reinforced Concretefor bordes Stair	Analysis G.21	35.04	M2	1	234,125.00	8,203,740.00
20	Reinforced Concretefor Stair Structure	Analysis G.21	44.57	M2	1	234,125.00	10,434,241.87
21	Floor reinforced concrete T=12 cm f'c = 19,3 Mpa	Analysis G.21	2,405.74	M2	1	234,125.00	563,242,941.00
F Formwork Lt 1							
1	Column structure 0.4 x 0.6 f'c = 19,3 Mpa	Analysis G.19	576.00	M2	1.09	170,125.00	106,811,280.00
2	Column structure 0.6 x 0.6 f'c = 19,3 Mpa	Analysis G.19	85.44	M2	1.09	170,125.00	15,843,673.20
3	Structure beam reinforced concrete B1 dim. 30/50 f'c	Analysis G.18	624.00	M2	1.09	131,000.00	89,100,960.00
4	Structure beam reinforced concrete B2 dim. 25/40 f'c	Analysis G.18	352.80	M2	1.09	131,000.00	50,376,312.00
5	Structure beam reinforced concrete B3 dim.20/35 f'c	Analysis G.18	36.00	M2	1.09	131,000.00	5,140,440.00
6	Structure beam reinforced concrete BA dim.20/30 f'c	Analysis G.18	292.80	M2	1.09	131,000.00	41,808,912.00
7	Floor reinforced concrete T=12 cm f'c = 19,3 Mpa	Analysis G.21	870.56	M2	1.09	234,125.00	222,163,596.36
Total III							5,203,643,908.15
IV Installation works							
A Ground Floor							
1	Brick masonry 1:5 for wall	Analysis D.9	3,034.80	M2	1	56,600.00	171,769,680.00
2	Brick masonry 1:2 for wall	Analysis D.7	47.02	M2	1	64,170.00	3,017,530.08
3	Plaster 1:5	Analysis E.10	6,069.60	M2	1	33,281.50	202,005,392.40
4	Finishing wall	Analysis E.27	6,069.60	M2	1	23,322.50	141,558,246.00
5	Alukopan composit plate + outside layer frame t : 4m	Ls	362.06	M2	1	713,003.00	258,153,003.39
B First floor							

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	COEF.	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
1	Brick masonry 1:5 for wall	Analysis D.9	2,741.04	M2	1.09	56,600.00	169,105,721.76
2	Brick masonry 1:2 for wall	Analysis D.7	47.02	M2	1.09	64,170.00	3,289,107.79
3	Plaster 1:5	Analysis E.10	5,482.08	M2	1.09	33,281.50	198,872,511.62
4	Finishing wall	Analysis E.27	5,482.08	M2	1.09	23,322.50	139,362,833.77
	Total IV						1,287,134,026.81
V	sills, door dan window works						
1	Alluminium Sills for Door and Window	Analysis K.9	3,853.24	M'	1	100,609.50	387,672,795.58
2	Alluminium Door Glass Frame	Analysis K.11	216.22	M2	1	1,032,190.00	223,184,077.74
3	aluminium mirror J1 + accessories	Analysis K.11	280.87	M2	1	1,032,190.00	289,909,214.38
4	frame aluminium mirror door P1 + accessories	Analysis K.11	24.97	M2	1	1,032,190.00	25,769,707.95
5	Glass 3 mm thickness	Analysis L.16	713.32	M2	1	141,723.75	101,093,781.08
	Total V						1,027,629,576.73
VI	Truss and Roof works						
1	Steel truss pole IWF 300 x 300 x 10 x 15 (C1)	Analysis K2+K3	3,677.52	Kg	1.09	25,092.25	100,582,324.17
2	Steel joint stiffner IWF 300 x 150 x 6.5 x 9	Analysis K2+K3	4,404.00	Kg	1.09	25,092.25	120,451,833.21
3	Iron purlin C 200 x 75 x 20 x 3.2 (P)	Analysis K2+K3	22,053.33	Kg	1.09	25,092.25	603,170,759.96
4	Steel truss 2L 70.70.7	Analysis K2+K3	18,822.06	Kg	1.09	25,092.25	514,793,692.93
5	Bolt Ø 16	Analysis K2+K3	239.62	Kg	1.09	25,092.25	6,553,629.99
6	Base Plat T 22 mm	Analysis K2+K3	127.17	Kg	1.09	25,092.25	3,478,169.76
8	Lateral stiffner for purlin Ø 10 mm	Analysis K2+K3	177.70	Kg	1.09	25,092.25	4,860,303.16
9	Trek stang installation (TR)Ø 19 mm	Analysis K2+K3	120.76	Kg	1.09	25,092.25	3,302,852.72
10	Gavalum sheet metal	Analysis H.28	2,463.54	Kg	1.09	110,465.00	296,627,091.25
11	Gavalum sheet metal list plank	Analysis H.28	1,828.33	m'	1.09	36,821.67	73,381,127.94
	Total VI						1,727,201,785.09
VII	Cieling Works						
	A Ground Floor						
1	Gypsum Cieling and Cieling Frame (Hollow)	Ls	2,405.74	M2	1	140,000.00	336,803,040.00
2	Gypsum Cieling List	Ls	3,608.60	M1	1	30,000.00	108,258,120.00
	B First Floor						
1	Gypsum Cieling and Cieling Frame (Hollow)	Ls	1,968.00	M2	1.09	140,000.00	300,316,800.00
2	Gypsum Cieling List	Ls	2,952.00	M1	1.09	30,000.00	96,530,400.00
3	Cieling GRC	Ls	208.00	M2	1.09	125,000.00	28,340,000.00
	Total VII						870,248,360.00
VIII	Ceramics works						
	A Ground Floor						
1	Sand Bedding	Analysis B.11	130.80	M ³	1	122,750.00	16,055,720.87
2	Ceramics dimension 40 x 40 cm	Analysis M.42	2,547.64	M2	1	140,615.00	358,236,398.60
3	Pas. Step noizing tangga		312.00	bh	1	25,000.00	7,800,000.00
4	Plin Ceramics	Analysis M.19	1,213.92	M'	1	22,194.00	26,941,740.48
5	Ceramics dimension 20 x 20 cm	Analysis M.26	68.36	M2	1	104,842.50	7,167,389.76

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	COEF.	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
6	Wall Ceramics dimension 20 x 20 cm	Analysis M.43	99.91	M2	1	119,982.50	11,987,230.81
B First Floor							
1	Sand Bedding	Analysis B.11	98.40	M ³	1.09	122,750.00	13,165,674.00
2	Ceramics dimension 40 x 40 cm	Analysis M.42	1,899.64	M2	1.09	140,615.00	291,157,966.55
3	Plin Ceramics	Analysis M.19	1,153.22	M'	1.09	22,194.00	27,898,075.50
4	Ceramics dimension 20 x 20 cm	Analysis M.26	68.36	M2	1.09	104,842.50	7,812,454.84
5	Wall Ceramics dimension 20 x 20 cm	Analysis M.43	99.91	M'	1.09	119,982.50	13,066,081.58
Total VIII							781,288,733.00
IX Electrical installation works							
A Ground Floor							
1	Electrical cable installation	Analysis O.5	291	ttk	1	188,470.00	54,844,770.00
2	Lamp Type 2 x 20 watt Reflector Grill	H. Satuan	176	ttk	1	275,000.00	48,400,000.00
3	SL Lamp 18 Watt + Accesories		20	bh	1	95,000.00	1,900,000.00
4	Stop contact	Analysis O.4	75	bh	1	47,720.00	3,579,000.00
5	Triple Switch	Analysis O.1	50	bh	1	97,720.00	4,886,000.00
6	Single Switch	Analysis O.3	50	bh	1	57,720.00	2,886,000.00
7	Single Switch and Stop contact	Analysis O.6	20	bh	1	75,720.00	1,514,400.00
8	DP box 1 Phase completely	Ls	4	bh	1	2,500,000.00	10,000,000.00
B First Floor							
1	Electrical cable installation	Analysis O.5	263	ttk	1.09	188,470.00	54,028,694.90
2	Lamp Type 2 x 20 watt Reflector Grill	H. Satuan	163	ttk	1.09	275,000.00	48,859,250.00
3	SL Lamp 18 Watt + Accesories		20	bh	1.09	95,000.00	2,071,000.00
4	Stop contact	Analysis O.4	60	bh	1.09	47,720.00	3,120,888.00
5	Triple Switch	Analysis O.1	45	bh	1.09	97,720.00	4,793,166.00
6	Single Switch	Analysis O.3	35	bh	1.09	57,720.00	2,202,018.00
7	Single Switch dan Stop contact	Analysis O.6	20	bh	1.09	75,720.00	1,650,696.00
8	DP box 1 Phase completely	Ls	3	bh	1.09	2,500,000.00	8,175,000.00
Total IX							252,910,882.90
X Painting works							
A Ground Floor							
1	Wall Painting	Analysis N.11	6,069.60	M2	1	16,855.50	102,306,142.80
2	Cieling Painting	Analysis N.11	1,968.00	M2	1	16,855.50	33,171,624.00
B First Floor							
1	Wall Painting	Analysis N.11	5,482.08	M2	1.09	16,855.50	100,719,487.39
2	Cieling Painting	Analysis N.11	1,968.00	M2	1.09	16,855.50	36,157,070.16
C Baja							
1	steel truss pole painting IWF 300x300x10x15 (C1)	Analysis N.16	70.42	M2	1.09	26,962.50	2,069,602.17
2	Steel joint stiffner IWF 300 x 150 x 6.5 x 9	Analysis N.16	144.00	M2	1.09	26,962.50	4,232,034.00
3	Iron purlin painting C 200 x 75 x 20 x 3.2 (P)	Analysis N.16	8,278.92	M2	1.09	26,962.50	243,310,214.75

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	COEF.	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
4	Steel truss painting L 100.100.10	Analysis N.16	1,020.17	M2	1.09	26,962.50	29,981,779.04
5	Steel truss painting L 70.70.7	Analysis N.16	714.12	M2	1.09	26,962.50	20,987,245.33
	Total X						572,935,199.63
XI	Plumbing Works						
A	Ground Floor						
1	Clean Water Installation PVC 2" Input	Analysis J.29	310.00	M'	1	24,993.00	7,747,830.00
2	Clean Water Installation PVC 1/2" Devided	Analysis J.29	120.00	M'	1	24,993.00	2,999,160.00
3	Clean Water Installation PVC 3/4" Output	Analysis J.25	156.00	M'	1	15,208.88	2,372,585.28
4	Waste Water Installation PVC 2"	Analysis J.29	75.00	M'	1	24,993.00	1,874,475.00
5	Waste Water Installation PVC 4"	Analysis J.31	218.00	M'	1	74,787.00	16,303,566.00
6	Rain Fall Installation PVC 4"	Analysis J.27	150.00	M'	1	53,474.50	8,021,175.00
7	Washtafel	Analysis J.5	8.00	bh	1	922,100.00	7,376,800.00
8	Toiled Sitting / Monoblock	Analysis J.1	12.00	bh	1	2,786,460.00	33,437,520.00
9	Plastic Bathtub	Ls	12.00	bh	1	450,000.00	5,400,000.00
10	Floor Drain	Hr. sat	12.00	bh	1	20,000.00	240,000.00
11	Urinoir	Analysis J.4	8.00	bh	1	955,350.00	7,642,800.00
12	Control Tube 60 x 60 x 65	Analysis J.17	4.00	bh	1	297,980.00	1,191,920.00
	B First Floor						
1	Clean Water Installation PVC 3/4" Output	Analysis J.25	224.00	M'	1.09	15,208.88	3,713,400.14
2	Waste Water Installation PVC 2"	Analysis J.29	120.00	M'	1.09	24,993.00	3,269,084.40
3	Waste Water Installation PVC 4"	Analysis J.31	156.00	M'	1.09	74,787.00	12,716,781.48
4	Washtafel	Analysis J.5	8.00	bh	1.09	922,100.00	8,040,712.00
5	Toiled Sitting / Monoblock	Analysis J.1	12.00	bh	1.09	2,786,460.00	36,446,896.80
6	Plastic Bathtub	Ls	12.00	bh		450,000.00	5,400,000.00
7	Floor Drain	Hr. sat	12.00	bh	1.09	20,000.00	261,600.00
8	Urinoir	Analysis J.4	8.00	bh	1.09	955,350.00	8,330,652.00
	Total XI						172,786,958.10
XII	Finishing Works And Miscelaneous						
1	Hand steenless Stair	Ls	57.60		1.00	1,250,000.00	72,000,000.00
2	Wall And Roof Profiles	Analysis E.29	260.00	M'	1.09	105,725.00	29,962,465.00
3	Vall Profiles	Ls	64.00	M'	1	450,000.00	31,392,000.00
4	Wall And Roof Profiles	Analysis E.29	455.00	M'	1.09	105,725.00	52,434,313.75
							185,788,778.75
	TOTAL						12,213,846,182.36
	BUILDING AREA (24 x 106 X 2 = 5088 M2)						5,088.00
	OFFICE BUILDING PRICE PER M2						2,400,520.08

QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION
 LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

IV WAREHOUSE STORAGE

NO	ESCRPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
I Land work						
1	Digging soil for poundation	Analysis B.2	376.00	M3	34,425.00	12,943,800.00
2	Back fill	Analysis B.9	94.00	M3	9,270.00	871,380.00
3	Heaps of Land Elevation Floor work	Analysis B.17	108.00	M3	75,175.00	8,118,900.00
4	Sand Badding	Analysis B.11	43.45	M3	122,750.00	5,333,487.50
Total I						27,267,567.50
II Structure works						
A Concrete work						
1	Stone poundation 1:4	Analysis C.2	178.60	M3	545,425.00	97,412,905.00
2	Aanstamping	Analysis C.6	37.60	M3	291,801.00	10,971,717.60
3	Reinforced concrete dimension 11/11 f'c = 19,3 Mpa	Analysis G.7	4.84	M3	860,887.50	4,166,695.50
4	Tie beam reinforced concrete dim.15/20 f'c = 19,3 Mpa	Analysis G.7	14.10	M3	860,887.50	12,138,513.75
5	Ring balk reinforced concrete dim.15/20 f'c = 19,3 Mpa	Analysis G.7	14.10	M3	860,887.50	12,138,513.75
6	Lean concrete installation T=10 cm f'c = 9,8 Mpa	Analysis G.2	54.00	M3	766,210.00	41,375,340.00
7	Floor reinforced concrete T=10 cm f'c = 19,3 Mpa	Analysis G.7	54.00	M3	860,887.50	46,487,925.00
B Wermes						
1	Reinforced concrete dimension 11/11 f'c = 19,3 Mpa	Analysis G.14	1,180.57	Kg	16,688.00	19,701,352.16
2	Tie beam reinforced concrete dim.15/20 f'c = 19,3 Mpa	Analysis G.14	1,897.58	Kg	16,688.00	31,666,815.04
3	Ring balk reinforced concrete dim.15/20 f'c = 19,3 Mpa	Analysis G.14	1,897.58	Kg	16,688.00	31,666,815.04
4	Floor reinforced concrete T=10 cm f'c = 19,3 Mpa	Analysis G.14	2,635.20	Kg	16,688.00	43,976,217.60
C formwork works						
1	Reinforced concrete dimension 11/11 f'c = 19,3 Mpa	Analysis G.19	105.60	M2	170,125.00	17,965,200.00
2	Tie beam reinforced concrete dim.15/20 f'c = 19,3 Mpa	Analysis G.18	112.80	M2	131,000.00	14,776,800.00
3	Ring balk reinforced concrete dim.15/20 f'c = 19,3 Mpa	Analysis G.20	155.40	M2	179,125.00	27,836,025.00
4	Floor reinforced concrete T=10 cm f'c = 19,3 Mpa	Analysis G.18	56.40	M2	131,000.00	7,388,400.00
Total II						419,669,235.44
III Truss and Roof workss						
1	Steel truss L 50.50.4	Analysis K2+K3	981.68	Kg	25,092.25	24,632,494.14
2	Iron purlin C 150 x 50 x 20 x 3.2 (P)	Analysis K2+K3	617.55	Kg	25,092.25	15,495,718.99
3	Lateral stiffner for purlin Ø 10 mm	Analysis K2+K3	112.62	Kg	25,092.25	2,825,972.60
4	Gavalum sheet metal tile installation	Analysis H.28	904.20	M2	110,465.00	99,882,453.00
5	Gavalum sheet metal Listplank	Analysis H.28	288.40	M'	36,821.67	10,619,368.67
Total III						153,456,007.39

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
IV Installation works						
1	Brick masonry 1:5 for wall	Analysis D.9	1,497.50	M2	56,600.00	84,758,500.00
2	Plaster 1:5	Analysis E.10	2,995.00	M2	33,281.50	99,678,092.50
3	Finishing wall	Analysis E.27	2,995.00	M2	23,322.50	69,850,887.50
4	Roofing Door	Ls	225.00	M2	350,000.00	78,750,000.00
Total IV						333,037,480.00
V Painting works						
1	Steel truss painting L 70.70.7	Analysis N.16	89.83	M2	26,962.50	2,421,952.08
2	Painting walls	Analysis N.11	2995.00	M2	16,855.50	50,482,222.50
Total V						52,904,174.58
VI Electrical installation						
1	Electrical cable installation	Analysis O.5	45.00	Ttk	188,470.00	8,481,150.00
2	SL Lamp 18 Watt + Accesories	H. Satuan	45.00	Bh	95,000.00	4,275,000.00
3	Single Switch and Stop contact	Analysis O.6	45.00	Bh	75,720.00	3,407,400.00
5	DP box 1 complete phase	Ls	1.00	Bh	2,500,000.00	2,500,000.00
Total VI						18,663,550.00
TOTAL COST FOR (I+II+III+IV+V+VI)						1,004,998,014.90
BUILDING AREA (3 x 4) x 45 = 540 m2						540.00
BUILDING COST PER M2						1,861,107.44

QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION
 LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

V COLD STORAGE

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
I	Land works					
1	Measurement and construction board	Analysis A.4	110.00	M3	45,825.00	5,040,750.00
2	Digging soil for poundation	Analysis B.2	105.60	M3	34,425.00	3,635,280.00
3	Back fill	Analysis B.9	26.40	M3	9,270.00	244,728.00
4	Heap soil and Elevation Floor work	Analysis B.17	75.60	M3	75,175.00	5,683,230.00
5	Sand Badding	Analysis B.11	24.18	M3	122,750.00	2,968,095.00
	Total I					17,572,083.00
II	Structure works					
A	Concrete work					
1	Stone poundation 1:4	Analysis C.2	58.90	M3	545,425.00	32,125,532.50
2	Aanstamping	Analysis C.6	10.56	M3	291,801.00	3,081,418.56
3	Reinforced concrete dimension 11/11 f'c = 19,3 Mpa	Analysis G.7	1.55	M1	860,887.50	1,334,375.63
4	Tie beam reinforced concrete dim.15/20 f'c = 19,3 Mpa	Analysis G.7	4.50	M3	860,887.50	3,873,993.75
5	Ring balk reinforced concrete dim.15/20 f'c = 19,3 Mpa	Analysis G.7	4.50	M3	860,887.50	3,873,993.75
6	Lean concrete installation T=10 cm f'c = 9,8 Mpa	Analysis G.2	37.80	M3	766,210.00	28,962,738.00
7	Floor reinforced concrete T=10 cm f'c = 19,3 Mpa	Analysis G.12	37.80	M3	860,887.50	32,541,547.50
B	Wermes					
1	Reinforced concrete dimension 11/11 f'c = 19,3 Mpa	Analysis G.14	377.78	Kg	16,688.00	6,304,392.64
2	Tie beam reinforced concrete dim.15/20 f'c = 19,3 Mpa	Analysis G.14	605.61	Kg	16,688.00	10,106,419.68
3	Ring balk reinforced concrete dim.15/20 f'c = 19,3 Mpa	Analysis G.14	605.61	Kg	16,688.00	10,106,419.68
4	Floor reinforced concrete T=10 cm f'c = 19,3 Mpa	Analysis G.14	1,844.64	Kg	16,688.00	30,783,352.32
C	formwork works					
1	Reinforced concrete dimension 11/11 f'c = 19,3 Mpa	Analysis G.19	33.79	M2	170,125.00	5,748,523.75
2	Tie beam reinforced concrete dim.15/20 f'c = 19,3 Mpa	Analysis G.18	36.00	M2	131,000.00	4,716,000.00
3	Ring balk reinforced concrete dim.15/20 f'c = 19,3 Mpa	Analysis G.20	49.50	M2	179,125.00	8,866,687.50
4	Floor reinforced concrete T=10 cm f'c = 19,3 Mpa	Analysis G.21	19.80	M2	234,125.00	4,635,675.00
	Total II					187,061,070.26
III	Truss and Roof workss					
1	Steel truss L 50.50.4	Analysis K2+K3	755.89	Kg	25,092.25	18,967,020.49

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
2	Iron purlin C 150 x 50 x 20 x 3.2 (P)	Analysis K2+K3	475.51	Kg	25,092.25	11,931,703.62
3	Lateral stiffner for purlin Ø 10 mm	Analysis K2+K3	78.84	Kg	25,092.25	1,978,180.82
4	Gavalum sheet metal	Analysis H.28	580.80	M2	110,465.00	64,158,072.00
5	Gavalum sheet metal Listplank	Analysis H.28	114.40	M'	36,821.67	4,212,398.67
	Total III					101,247,375.59
IV	Installation works					
1	Brick masonry 1:5 for wall	Analysis D.9	501.60	M2	56,600.00	28,390,560.00
2	Plaster 1:5	Analysis E.10	1,003.20	M2	33,281.50	33,388,000.80
3	Finishing wall	Analysis E.27	1,003.20	M2	23,322.50	23,397,132.00
4	Door alluminium sills and window	Analysis K.9	77.00	M'	100,609.50	7,746,931.50
5	double PJ1 + accessories for alluminium frame mirror	Analysis K.11	22.40	M2	1,032,190.00	23,121,056.00
6	alluminium frame mirror J1 + accessories	Analysis K.11	12.60	M2	1,032,190.00	13,005,594.00
7	Alumunium foil for wall	Ls	385.00	M2	300,000.00	115,500,000.00
	Total IV					244,549,274.30
V	Cieling works					
1	Hollow frame cieling alluminium layer	Ls	378.00	M2	350,000.00	132,300,000.00
	Total V					132,300,000.00
VI	Painting works					
1	Steel truss painting L 70.70.7	Analysis N.16	62.88	M2	26,962.50	1,695,366.45
2	Painting walls	Analysis N.11	1003.20	M2	16,855.50	16,909,437.60
	Total VI					18,604,804.05
VII	Electrical installation					
1	Electrical cable installation	Analysis O.5	31.00	TTk	188,470.00	5,842,570.00
2	lighting rod 2 x 40 Watt Reflector Grill	H. Satuan	21.00	Bh	300,000.00	6,300,000.00
3	Double Switch	Analysis O.2	10.00	Bh	77,720.00	777,200.00
4	Stop contact	Analysis O.4	10.00	Bh	47,720.00	477,200.00
5	DP box 1 complete phase	Ls	1.00	Bh	2,500,000.00	2,500,000.00
	Total VII					15,896,970.00
	TOTAL COST (I+II+III+IV+V+VI+VII)					717,231,577.20
	BUILDING AREA 9 x 42 = 378 m2					378.00
	BUILDING COST PER M2					1,897,438.03

BILL OF QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION
LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

VI WORKSHOP WOODEN BOX

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
I Land works						
1	Digging soil for poudation	Analysis B.3	85.83	M3	41,105.00	3,528,165.47
2	Back fill	Analysis B.9	60.53	M3	9,270.00	561,150.18
3	Heap soil and Elevation Floor work	Analysis B.17	226.80	M3	75,175.00	17,049,690.00
4	Sand Badding	Analysis B.11	48.24	M3	122,750.00	5,921,460.00
Total I						27,060,465.65
II Structure works						
A Concrete work						
1	Lean concrete poudation and floor f'c = 9,8 Mpa	Analysis G.2	118.60	M3	766,210.00	90,874,038.42
2	Boring pile	TP1	150.00	M1	106,568.00	15,985,200.00
3	Concrete masonry for bore pile	TP.2	150.00	M3	555,108.00	83,266,200.00
4	Concrete masonry for Foot plate 1.5 x 1.5 x 0.4 f'c = 19,3 Mpa	Analysis G.7	21.60	M3	860,887.50	18,595,170.00
5	Pile concrete masonry for foot plate 0.4x0.4 f'c = 19,3 Mpa	Analysis G.7	6.14	M3	860,887.50	5,285,849.25
6	Tie beam reinforced concrete S1 dim. 30/50 f'c = 19,3 Mpa	Analysis G.7	32.40	M3	860,887.50	27,892,755.00
7	Floor reinforced concrete T=10 cm f'c = 19,3 Mpa	Analysis G.7	113.40	M3	860,887.50	97,624,642.50
B Wermes						
1	Concrete Foot plate 1.5 x 1.5 x 0.4 f'c = 19,3 Mpa	Analysis G.14	3,039.33	Kg	16,688.00	50,720,339.04
2	Pile concrete masonry for foot plate 0.4x0.4 f'c = 19,3 Mpa	Analysis G.14	863.95	Kg	16,688.00	14,417,597.60
3	Tie beam reinforced concrete S1 dim. 30/50 f'c = 19,3 Mpa	Analysis G.14	4,395.70	Kg	16,688.00	73,355,441.60
4	Floor reinforced concrete T=10 cm f'c = 19,3 Mpa	Analysis G.14	5,533.92	Kg	16,688.00	92,350,056.96
C formwork works						
1	Pile concrete masonry for foot plate 0.4x0.4 f'c = 19,3 Mpa	Analysis G.19	36.86	M2	170,125.00	6,270,807.50
2	Tie beam reinforced concrete S1 dim. 30/50 f'c = 19,3 Mpa	Analysis G.18	90.00	M2	131,000.00	11,790,000.00
Total II						588,428,097.87
III Truss and Roof workss						
1	Steel truss pile IWF 300 x 300 x 10 x 15 (C1)	Analysis K2+K3	7,614.00	Kg	25,092.25	191,052,391.50
2	Steel pile joint stiffner IWF 300 x 150 x 6.5 x 9	Analysis K2+K3	4,161.78	Kg	25,092.25	104,428,424.21
3	Iron purlin C 200 x 75 x 20 x 3.2 (P)	Analysis K2+K3	8,202.87	Kg	25,092.25	205,828,464.76

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
4	steel truss L 70.70.7	Analysis K2+K3	14,892.99	Kg	25,092.25	373,698,626.28
5	Bolt Ø 16	Analysis K2+K3	168.48	Kg	25,092.25	4,227,542.28
6	Base Plate T 22 mm	Analysis K2+K3	346.19	Kg	25,092.25	8,686,560.57
7	Lateral stiffner for purlin Ø 10 mm	Analysis K2+K3	443.66	Kg	25,092.25	11,132,329.83
8	Trek Stang (TR)Ø 19 mm	Analysis K2+K3	1,365.43	Kg	25,092.25	34,261,658.97
9	gavalum sheet metal tile	Analysis H.28	1,560.00	M2	110,465.00	172,325,400.00
10	Gavalum sheet metal listplank	Analysis H.28	178.00	M'	36,821.67	6,554,256.67
11	Alukopan composit plate + Framework of the Outer Wall Coa	Ls	39.77	M2	713,003.00	28,356,984.91
	Total III					1,140,552,639.96
IV	Painting works					
1	Steel truss pile IWF 300 x 300 x 10 x 15 (C1)	Analysis N.16	162.00	M2	26,962.50	4,367,925.00
2	Steel pile joint stiffner IWF 300 x 150 x 6.5 x 9	Analysis N.16	151.20	M2	26,962.50	4,076,730.00
3	Iron purlin C 200 x 75 x 20 x 3.2 (P)	Analysis N.16	4297.80	M2	26,962.50	115,879,432.50
4	steel truss L 70.70.7	Analysis N.16	420.91	M2	26,962.50	11,348,882.51
	Total IV					135,672,970.01
V	Electrical installation					
1	Electrical cable installation	Analysis O.5	193.00	TTk	188,470.00	36,374,710.00
2	lighting rod 1 x 80 Watt Reflector Grill	H. Satuan	168.00	Bh	300,000.00	50,400,000.00
3	Triple Switch	Analysis O.1	15.00	Bh	77,720.00	1,165,800.00
4	Single Switch and stop contact	Analysis O.6	10.00	Bh	75,720.00	757,200.00
5	DP box 1 complete phase	Ls	1.00	Bh	2,500,000.00	2,500,000.00
	Total V					91,197,710.00
	TOTAL COST (I+II+III+IV+V)					1,982,911,883.49
	BUILDING AREA (18 x 63) = 1134 M2					1,134.00
	BUILDING COST PER M2					1,748,599.54

BILL OF QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION
LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

VII ELECTRIC POWER SUPPLY SYSTEM

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
A	OUTSIDE ELECTRICITY INSTALATION AND TRANSFORMERS (250 KVA)					
1	Concrete pile 11 m + haul and install	Ls	2.00	Btg	4,888,000.00	9,776,000.00
2	SKTM cable 3 x 150 m	Ls	150.00	M1	22,000.00	3,300,000.00
3	NYGGBY cable 4x1x70 m from MDP to DP	Ls	1350.00	M1	341,700.00	461,295,000.00
4	Transformer 250 KVA	Ls	1.00	Bh	104,760,000.00	104,760,000.00
5	Portal Frame Mounting Transformers	Ls	1.00	Set	5,000,000.00	5,000,000.00
6	Ligting Anester 24 Kv	Ls	3.00	Set	880,000.00	2,640,000.00
7	Cut Out 20 Kv + Fuse Link	Ls	3.00	Set	935,000.00	2,805,000.00
8	Puding pipe 2 ways	Ls	1.00	Set	1,650,000.00	1,650,000.00
9	Complete Arde	Ls	2.00	Set	3,850,000.00	7,700,000.00
10	Manset concrete	Ls	1.00	Set	1,100,000.00	1,100,000.00
11	Outages cost	Ls	1.00	Jam	7,500,000.00	7,500,000.00
12	Complete asesories include Amphere and handle	Ls	1.00	Set	16,000,000.00	16,000,000.00
13	NYFGBY cable 4 x 16 mm2 For network environments	Ls	1500.00	M1	125,000.00	187,500,000.00
14	Fixed dan Suspention	Ls	34.00	Bh	72,000.00	2,448,000.00
15	LVTC cable 2 x 16 mm2 for the building Network Connection	Ls	260.00	M1	7,200.00	1,872,000.00
16	LVTC cable 2 x 16 mm2 for PJU lamp network connection	Ls	520.00	M1	7,200.00	3,744,000.00
17	PJU lamp Type SRP 822 / SONT	Ls	23.00	Bh	1,045,000.00	24,035,000.00
18	Panel Time Swicth	Ls	2.00	Bh	2,365,000.00	4,730,000.00
19	Connection cost (BP & UJL) 250 KvA	Ls	1.00	Ls	69,877,500.00	69,877,500.00
20	Warranty installer & Handling	Ls	1.00	Ls	16,500,000.00	16,500,000.00
	TOTAL A					934,232,500.00
B	LIGHT POLES AND GARDEN LIGHTS INSTALATION					
1	Garden lamp installation, 1 lamp	S.4	20.00	Unit	1,117,256.44	22,345,128.76
2	Garden lamp installation, 4 lamp	S.5	10.00	Unit	3,926,885.59	39,268,855.88
3	Double lamp pole installation	S.6	38.00	Unit	5,127,627.04	194,849,827.47
4	Single lamp pole installation	S.7	35.00	Unit	4,352,085.37	152,322,988.02
5	Road lamp	H. Satuan	12.00	Bh	500,000.00	6,000,000.00
6	Under ground cable Installation	S.3	3050.00	M1	96,250.00	293,562,500.00
	TOTAL B					708,349,300.13
C	PROCUREMENT OF GENERATOR SET					
	MERK PERKINS/STAMFORD					
	ENGLAND, 250 KVA, 200 KW					
1	Generator set machine	Ls	1.00	Unit	322,294,900.00	322,294,900.00
	TOTAL C					322,294,900.00

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
D	GENERATOR HOUSE					
I	Preparing works					
1	Construction board installation	Analysis A.4	24.25	M1	45,825.00	1,111,256.25
	Total I					1,111,256.25
II	Land Works					
1	Digging soil for poundation	Analysis B.3	22.73	M3	41,105.00	934,496.48
2	Back fill	Analysis B.9	12.72	M3	9,270.00	117,880.28
3	Back fill sand for floor	Analysis B.11	3.71	M3	122,750.00	454,942.19
	Total II					1,507,318.95
III	Structure works					
1	River stone masonry 1:4	Analysis C.2	5.82	M3	545,425.00	3,174,373.50
2	Aanstamping	Analysis C.6	2.00	M3	291,801.00	583,784.38
3	Practice column reinforced concrete 11/11 f'c=19,3 Mpa	Analysis G.32	60.00	M'	67,877.50	4,072,650.00
4	Tie beam reinforced concrete 15/20 f'c=19,3 Mpa	Analysis G.26	0.78	M3	4,656,527.19	3,632,091.21
5	Base plate reinforced concrete	Analysis G.25	0.82	M3	3,837,045.00	3,146,376.90
6	Concrete Rabat floor T = 5 cm	Analysis G.2	1.30	M3	766,210.00	996,073.00
7	Flipper plate reinforced concrete T = 10 cm f'c=19,3 Mpa	Analysis G.30	1.25	M3	5,125,045.00	6,406,306.25
8	Tile plate beam reinforced concrete B1 (15/30)	Analysis G.28	1.14	M3	5,975,320.00	6,781,988.20
9	Lisplank reinforced concrete T = 10 cm	Analysis G.28	2.72	M3	5,975,320.00	16,237,932.10
10	Tile plate concrete dimension T: 12 cm f'c=19,3 Mpa	Analysis G.29	1.87	M3	5,289,225.00	9,880,483.87
11	Concrete Listplank profiles	H. Satuan	20.00	M1	200,000.00	4,000,000.00
12	ornaments Lampung	H. Satuan	20.00	M1	200,000.00	4,000,000.00
13	Iron door installation	Ls	5.85	M2	750,000.00	4,387,500.00
	Total III					67,299,559.40
IV	Installation works					
1	Brick masonry 1:4 for wall	Analysis D.9	120.10	M2	56,600.00	6,797,660.00
2	Plaster	Analysis E.10	218.35	M2	33,281.50	7,266,862.43
3	Finishing wall	Analysis E.27	218.35	M2	23,322.50	5,092,360.59
4	Andesit stone	Ls	26.02	M2	316,172.50	8,225,543.76
5	Roster	Ls	4.45	M2	176,325.20	784,999.79
	Total IV					28,167,426.57
V	Electrical installation					
1	Electrical cable installation	Analysis O.5	5.00	ttk	188,470.00	942,350.00
2	SL Lamp 18 Watt + Accesories	Ls	4.00	Bh	95,000.00	380,000.00
3	Stop contact	Analysis O.4	1.00	Bh	47,720.00	47,720.00
4	Singe Switch	Analysis O.3	1.00	Bh	57,720.00	57,720.00
5	Termis box	Ls	1.00	Bh	400,000.00	400,000.00
	Total V					1,827,790.00
VI	Painting works					

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
1	Wall Painting	Analysis N.11	218.35	M2	16,855.50	3,680,320.89
	Jumlah VI					3,680,320.89
	TOTAL D					103,593,672.07
E	LIGHTNING ROD INSTALLATION					
1	TERMINAL WATER TP.125	Ls	1	bh	9,500,000	9,500,000.00
2	GIP 1½" x 2 m	Ls	1	btg	80,000	80,000.00
3	GIP 2" x 2 m	Ls	1	btg	83,335	83,335.00
4	GIP 2½" x 2 m	Ls	1	btg	103,335	103,335.00
5	ROOF PLATE COVERING 50x50x4mm	Ls	1	btg	200,000	200,000.00
6	CONDUIT 1"	Ls	0	m	17,500	0.00
7	CABLE NYA 1x70 mm	Ls	15	m	73,840	1,107,600.00
8	SADLE C65x42x55	Ls		bh	20,000	0.00
9	U BOLT & NUTS d. 25mm	Ls		bh	2,500	0.00
10	BOLT & NUTS M 10 x 6	Ls		bh	2,500	0.00
11	STAY WIRE 8 mm	Ls	45	m	10,000	450,000.00
12	WIRE TERMINAL 4 WIRE	Ls	1	bh	25,000	25,000.00
13	WIRE CLIPS	Ls	12	bh	2,500	30,000.00
14	TURN BUCKLE 1/2"	Ls	3	bh	10,000	30,000.00
15	EYE BOLT	Ls	3	bh	10,000	30,000.00
16	CU GROUND ROD DIAM. 5/8"x4m	Ls	2	btg	650,000	1,300,000.00
17	GRD PITS CONCRETE 40x40x40cm	Ls	1	bh	200,000	200,000.00
18	PITS COVER PLATE 36x36 cm	Ls	1	bh	75,000	75,000.00
19	CONDUIT PVC 1½"	Ls	0	m	10,000	0.00
20	EARTH TEST CLAMP C/W BOX	Ls	1	bh	250,000	250,000.00
21	CLAMP CONDUIT	Ls	0	bh	250	0.00
22	LUGS CABLE 70 SQMM	Ls	4	bh	9,500	38,000.00
23	TOWER TRIANGLE H 6M	Ls	1	bh	6,500,000	6,500,000.00
24	TOWER POUNDATION 70X70X80	Ls	1	bh	95,000	95,000.00
25	GROUND POLE CONCRETE	Ls	3	bh	150,000	450,000.00
26	CLAMP CONDUCTOR (DETAIL -E)	Ls	6	bh	25,000	150,000.00
27	BC 70 mm	Ls	8	m	43500	348,000.00
28	EXCAVATION	Ls	1	lot	150,000	150,000.00
29	INSTALLATION SERVICE	Ls	1	lot	5,000,000	5,000,000.00
	INSTALLATION COST 1 UNIT LIGHTNING ROD					26,195,270.00
	COST FOR 8 UNITS LIGHTNING ROD					209,562,160.00

BILL OF QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION
LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

VIII WATER SUPPLY SYSTEM

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
A	WELL BOR WORKS					
A.1	DRILLING WORKS					
1	Drilling depth 125 meter					
	including procurement of Bentonite and other					
	- From depth 0 meter to 60 meter	SB 13	60.00	M	346,750.00	20,805,000.00
	- From depth 60 meter to 160 meter	SB 14	100.00	M	368,020.00	36,802,000.00
2	Reaming dia. 250 mm					
	- From depth 0 meter to 60 meter	SB 17	60.00	M	369,935.00	22,196,100.00
	- From depth 60 meter to 160 meter	SB 18	100.00	M	391,800.00	39,180,000.00
	Sub Total A.1					118,983,100.00
A.2	PROCUREMENT OF-PIPE INSTALLATION					
1	Pumping House Casing					
	- Type of pipe : Galvanized					
	- Pipe Classify : Medium					
	- Diameter : 150 mm	SB 5	136.00	M	221,570.00	30,133,520.00
2	Screen					
	- Type of pipe : Carbon Steel					
	- Pipe Classify : API - Medium					
	- Over Area : ± 30%					
	- Diameter : 150 mm	SB 8	24.00	M	357,958.90	8,591,013.60
3	Pipa Hisap Diameter 50 mm, GIP		50.00	M	135,000.00	6,750,000.00
4	Centering Guilder install each 30 m		5.00	set	105,000.00	525,000.00
5	Loging Test / Bore Hole Loging SP Resitivity, Gamma	SB 21	160.00	M	54,200.00	8,672,000.00
6	Procurement/Grafel Pack installation/Filter Grafel	SB 12	5.00	M3	150,370.00	751,850.00
7	Wall Head Grouting and others	Spl G.51	0.45	M3	466,250.00	209,812.50
	Sub Total A.2					55,633,196.10
A.3	WASHING/CLEANING HOLES BOR					
	INCLUDE TEST					
1	Pumping test includes Steep Draw Test Long,	SB 22	48.00	jam	72,365.00	3,473,520.00
	Period Test and Recovery Test					
2	Clean water sampling test at DepKes Laboratory		2.00	spl	1,200,000.00	2,400,000.00

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
	Sub Total A.3					5,873,520.00
A.4	PROCUREMENT/PUMP INSTALLATION Q=5 lt/det, H=70 m					
	- Procurement/Generator set installation capacity. 20 kVA		1.00	unit	95,000,000.00	95,000,000.00
	Complete with Panel and Poundation					
	Sub Total A.3					95,000,000.00
	TOTAL A					275,489,816.10
B	GROUND RESERVOAR BUILDING WORKS					
	(CAPACITY 200 M3)					
	Reinforced concrete = 40% x 200 M3	Analysis G.30	80.00	M3	5,125,045.00	410,003,600.00
	TOTAL B					410,003,600.00
C	CENTRIFUGAL PUMP PROCUREMENT H=50 M, Q=5 L/SEC					
1	centrifugal pump H=50 M, Q=5 L/Det lengkap	Ls	3.00	Unit	72,000,000.00	216,000,000.00
	with installation					
	TOTAL C					216,000,000.00
D	WATER SUPPLY PIPE INSTALATION					
1	Clean water pipe installation building outside	Ls	1.00	Ls	950,000,000.00	950,000,000.00
	TOTAL D					950,000,000.00
E	ELEVATED WATER TANK					
	1. Fiber Tank (2 M3) and Accessories	Ls	24.00	Unit	4,500,000.00	108,000,000.00
	2. Tower Water Tank (4 M3) and Accessories	Ls	3.00	Unit	175,000,000.00	525,000,000.00
	TOTAL E					633,000,000.00

BILL OF QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION
LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

IX WASTE WATER TREATMENT FACILITIES

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
A DRAINAGE CHANNEL						
I TYPE 1 (U-40)						
VOLUME CHANNEL FOR 1 M'						
1	Measurement and construction board	Analysis A.4	0.25	M'	45,825.00	11,456.25
2	Channel digging soil	Analysis B.2	0.26	M3	34,425.00	8,950.50
3	Back Fill	Analysis B.9	0.00	M3	9,270.00	0.00
4	Reinforcement Bar	Analysis G.14	25.72	Kg	16,688.00	429,215.36
5	formwork channel	Analysis G.22	1.46	M2	89,562.50	130,761.25
6	casting concrete K300	Analysis G.10	0.18	M3	898,143.50	161,665.83
Price per 1 m'						742,049.19
II TYPE 2 (U-50)						
VOLUME CHANNEL FOR 1 M'						
1	Measurement and construction board	Analysis A.4	0.25	M'	45,825.00	11,456.25
2	Channel digging soil	Analysis B.2	0.37	M3	34,425.00	12,737.25
3	Back Fill	Analysis B.9	0.00	M3	9,270.00	0.00
4	Reinforcement Bar	Analysis G.14	30.31	Kg	16,688.00	505,813.28
5	formwork channel	Analysis G.22	1.70	M2	89,562.50	152,256.25
6	casting concrete K300	Analysis G.10	0.20	M3	898,143.50	179,628.70
Price per 1 m'						861,891.73
III TYPE 3 (U-80)						
VOLUME CHANNEL FOR 1 M'						
1	Measurement and construction board	Analysis A.4	0.25	M'	45,825.00	11,456.25
2	Channel digging soil	Analysis B.2	0.90	M3	34,425.00	30,982.50
3	Back Fill	Analysis B.9	0.00	M3	9,270.00	0.00
4	Reinforcement Bar	Analysis G.14	45.16	Kg	16,688.00	753,630.08
5	formwork channel	Analysis G.22	2.64	M2	89,562.50	236,445.00
6	casting concrete K300	Analysis G.10	0.39	M3	898,143.50	350,275.97
Price per 1 m'						1,382,789.80
IV TYPE 4 (U-100)						
VOLUME CHANNEL FOR 1 M'						
1	Measurement and construction board	Analysis A.4	0.25	M'	45,825.00	11,456.25
2	Channel digging soil	Analysis B.2	1.39	M3	34,425.00	47,850.75
3	Back Fill	Analysis B.9	0.00	M3	9,270.00	0.00
4	Reinforcement Bar	Analysis G.14	53.78	Kg	16,688.00	897,480.64

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
5	formwork channel	Analysis G.22	3.31	M2	89,562.50	296,451.88
6	casting concrete K300	Analysis G.10	0.55	M3	898,143.50	493,978.93
Price per 1 m'						1,747,218.44
RECAPITULATION OF WORK CHANNEL DRAINAGE						
1	Type 1		2,030.05	M'	742,049.19	1,506,396,958.16
2	Type 2		1,548.57	M'	861,891.73	1,334,699,676.33
3	Type 3		905.47	M'	1,382,789.80	1,252,074,675.68
4	Type 4		0.00	M'	1,747,218.44	0.00
TOTAL A						4,093,171,310.16
B	WASTE WATER TREATMENT INSTALATIONS (WWTP)					
	PRICE PER 1 UNIT DIMENSION 2 x 8,85 M					
1	Digging soil	Analysis B.2	44.61	M3	34,425.00	1,535,699.25
2	Sand Fill	Analysis B.11	1.22	M3	122,750.00	149,755.00
3	Lean Concrete	Analysis G.34	1.22	M3	815,002.00	994,302.44
4	Reinfordment Slab Plate	Analysis G.14	181.68	Kg	16,688.00	3,031,875.84
5	Floor plate concrete casting K225	Analysis G.7	3.54	M3	860,887.50	3,047,541.75
6	Reinfordment Slab Wall	Analysis G.14	1,436.67	Kg	16,688.00	23,975,148.96
7	Concrete wall formwork	Analysis G.22	107.66	M2	179,125.00	19,284,597.50
8	Concrete wall concrete casting K225	Analysis G.7	14.04	M3	860,887.50	12,086,860.50
9	Reinfordment Slab Beam And Plat	Analysis G.14	262.10	Kg	16,688.00	4,373,924.80
10	Beam formwork dan plate coverings	Analysis G.21	17.70	M2	234,125.00	4,144,012.50
11	Beam and plate covering concrete casting K225	Analysis G.7	3.48	M3	860,887.50	2,995,888.50
12	Reinfordment Slab Filter Plat	Analysis G.14	88.85	Kg	16,688.00	1,482,728.80
13	Concrete slab formwork filter	Analysis G.21	6.00	M2	234,125.00	1,404,750.00
14	Concrete slab formwork filter T = 10 cm K225	Analysis G.7	0.60	M3	860,887.50	516,532.50
15	PVC 2" Pipa installation	Analysis J.29	7.00	M'	24,993.00	174,951.00
16	PVC 4" pipe installation	Analysis J.31	27.00	M'	74,787.00	2,019,249.00
17	T 2" installation	Ls	6.00	Bh	15,000.00	90,000.00
18	T 4" installation	Ls	18.00	Bh	25,000.00	450,000.00
19	vulkano stone masonry	Ls	2.04	M3	350,000.00	714,000.00
JUMLAH B						82,471,818.34
C	Temporary garbage trash/COMPOST					
I	Land works					
1	Digging soil poudation	Analysis B.3	44.00	M3	41,105.00	1,808,620.00
2	Back fill	Analysis B.9	32.00	M3	9,270.00	296,628.48
3	Heap soil and levelling floor	Analysis B.17	124.03	M3	75,175.00	9,323,579.38
4	Sand Badding	Analysis B.11	62.01	M3	122,750.00	7,612,034.38
Jumlah I						19,040,862.23
II	Structure works					

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
A Concrete works						
1	Lean concrete	Analysis G.2	2.88	M3	766,210.00	2,206,684.80
2	Stone masonry 1:4	Analysis C.2	43.35	M3	545,425.00	23,644,173.75
3	Aanstamping	Analysis C.6	13.60	M3	291,801.00	3,968,493.60
4	Foot plate concrete 1 x 1 x 0.35 f'c = 19,3 Mpa	Analysis G.7	6.00	M3	860,887.50	5,165,325.00
5	Foot plate pole concrete 0.3 x 0.25 f'c = 19,3 Mpa	Analysis G.7	5.25	M3	860,887.50	4,519,659.38
6	KP reinforced concrete dimension 11/11 f'c=19,3 Mpa	Analysis G.7	0.21	M3	860,887.50	182,292.93
7	Construction board reinforced concrete dim.. 25/40	Analysis G.7	23.00	M3	860,887.50	19,800,412.50
8	Ring Balk dim. 15/25 f'c = 19,3 Mpa	Analysis G.7	3.44	M3	860,887.50	2,959,300.78
9	Slab concrete reinforced concrete T=12 cm f'c = 19,3 Mpa	Analysis G.7	5.07	M3	860,887.50	4,365,216.16
10	Floor reinforced concrete T=10 cm f'c = 19,3 Mpa	Analysis G.12	47.49	M3	860,887.50	40,884,867.40
B Wermes						
1	Foot plate concrete 1 x 1 x 0.35 f'c = 19,3 Mpa	Analysis G.14	993.16	Kg	16,688.00	16,573,892.17
2	Foot plate pole concrete 0.3 x 0.25 f'c = 19,3 Mpa	Analysis G.14	245.48	Kg	16,688.00	4,096,581.37
3	KP reinforced concrete dim. 11/11 f'c=19,3 Mpa	Analysis G.14	406.53	Kg	16,688.00	6,784,131.72
4	Slab concrete reinforced concrete dim. 25/40 f'c = 19,3 Mpa	Analysis G.14	3,830.20	Kg	16,688.00	63,918,377.60
5	Ring Balk dim. 15/25 f'c = 19,3 Mpa	Analysis G.14	771.03	Kg	16,688.00	12,866,905.76
6	Slab concrete reinforced concrete T=12 cm f'c = 19,3 Mpa	Analysis G.14	4,147.59	Kg	16,688.00	69,215,047.19
C Formwork						
1	Foot plate pole concrete 0.3 x 0.25 f'c = 19,3 Mpa	Analysis G.19	36.96	M2	170,125.00	6,287,820.00
2	KP reinforced concrete dim. 11/11 f'c=19,3 Mpa	Analysis G.19	132.00	M2	170,125.00	22,456,500.00
3	Slab concrete reinforced concrete dim. 25/40 f'c = 19,3 Mpa	Analysis G.18	270.00	M2	131,000.00	35,370,000.00
4	Ring Balk dim. 15/25 f'c = 19,3 Mpa	Analysis G.18	88.00	M2	131,000.00	11,528,000.00
TOTAL II						356,793,682.11
III Truss and Roof works						
1	Steel truss pole IWF 200x100x5.5x8 (C1)	Analysis K2+K3	2,130.00	Kg	25,092.25	53,446,492.50
2	Steel pole joint stiffner IWF 200x100x5.5x8	Analysis K2+K3	2,130.00	Kg	25,092.25	53,446,492.50
3	Iron purlin C 200 x 75 x 20 x 3.2 (P)	Analysis K2+K3	5,932.80	Kg	25,092.25	148,867,300.80
4	Steel truss IWF 200 x 100 x 5.5 x 8 (C1)	Analysis K2+K3	6,575.61	Kg	25,092.25	164,996,804.86
5	Bolt Ø 16	Analysis K2+K3	798.72	Kg	25,092.25	20,041,681.92
6	Base Plate T 22 mm	Analysis K2+K3	125.60	Kg	25,092.25	3,151,586.60
7	Lateral stiffner for purlin Ø 10 mm	Analysis K2+K3	2,468.00	Kg	25,092.25	61,927,673.00
8	Trek Stang installation (TR)Ø 19 mm	Analysis K2+K3	701.24	Kg	25,092.25	17,595,648.41
10	Gavalum sheet metal tile installation	Analysis H.28	827.29	M2	110,465.00	91,386,663.49
11	Gavalum sheet metal list plank	Analysis H.28	3,309.16	M'	36,821.67	121,848,884.66
Total III						736,709,228.73
IV Installation work						
1	Brick masonry 1:5 for wall	Analysis D.9	319.29	M2	56,600.00	18,071,746.08
2	Plaster 1:5	Analysis E.10	633.63	M2	33,281.50	21,088,111.04
3	Finishing wall	Analysis E.27	633.63	M2	23,322.50	14,777,803.57

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
4	Alluminium Frame Doors ,windows and Partition	Analysis K.9	23.22	M1	100,609.50	2,336,152.59
5	Thick glass 5mm window and Partition	Analysis L.15	3.08	M2	119,723.75	368,749.15
6	The door leaf layer Plywood 3 mm wood frame	Analysis F.12	4.83	M2	391,475.00	1,890,824.25
7	door hinge	Analysis L.5	9.00	Bh	44,727.00	402,543.00
8	Cylinder Locks	Analysis L.2	2.00	Bh	103,775.00	207,550.00
9	door handle	H. Satuan	2.00	Bh	75,000.00	150,000.00
	Total IV					59,293,479.68
V	Cieling Works					
1	Gypsum Cieling and Cieling Frame (Hollow)	Analysis F.42	72.45	M2	140,000.00	10,143,000.00
	Total V					10,143,000.00
VI	Ceramics works					
1	Ceramics dimension 30 x 30 cm	Analysis M.25	72.45	M2	133,699.15	9,686,503.42
	Total VI					9,686,503.42
VII	Painting works					
1	Steel truss pole IWF 200x100x5.5x8 (C1)	Analysis N.16	24.40	M2	26,962.50	657,885.00
2	Steel pole joint stiffner IWF 200x100x5.5x8	Analysis N.16	48.00	M2	26,962.50	1,294,200.00
3	Iron purlin C 200 x 75 x 20 x 3.2 (P)	Analysis N.16	74.24	M2	26,962.50	2,001,696.00
4	Steel truss IWF 200 x 100 x 5.5 x 8 (C1)	Analysis N.16	148.18	M2	26,962.50	3,995,376.59
5	Wall painting	Analysis N.11	633.63	M2	16,855.50	10,680,127.27
6	Cieling painting	Analysis N.11	72.45	M2	16,855.50	1,221,180.98
	Total VII					19,850,465.83
VIII	Electrical installation works					
1	Electrical cable installation works	Analysis O.5	21.00	TTk	188,470.00	3,957,870.00
2	TL Lamp 2 x 20 Watt Reflector Grill	H. Satuan	14.00	Bh	300,000.00	4,200,000.00
3	SL Lamp 18 Watt + Accesories	H. Satuan	3.00	Bh	95,000.00	285,000.00
4	Double switch + Stop contact	Ls	2.00	Bh	80,220.00	160,440.00
5	Single Switch and Stop contact	Ls	2.00	Bh	75,720.00	151,440.00
	Total VIII					8,754,750.00
	TOTAL C (I+II+III+IV+V+VI+VII+VIII)					1,220,271,972.00
	BUILDING AREA (12 x 50) = 600 M2					600.00
	BUILDING PRICE PER M2					2,033,786.62
D	Garbage equipments					
1	Arm Roll truck	Ls	15.00	unit	230,000,000.00	3,450,000,000.00
2	Container (P=3 m, L=1,86 m, T=1,6 m)	Ls	30.00	unit	22,500,000.00	675,000,000.00
3	Pit container poundation	Ls	15.00	bh	15,000,000.00	225,000,000.00
4	Motorcycle+support	Ls	25.00	bh	27,500,000.00	687,500,000.00
5	Bin Jumbo with wheel (Capacity 240 ml)	Ls	274.00	bh	350,000.00	95,900,000.00
	TOTAL D					5,133,400,000.00

BILL OF QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION
LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

X ROAD AND PARKING FOR LOADING/SHIPPING

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
A	RIGID PAVEMENT					
	VOLUME 1 M3 (5 M2)					
1	Digging soil	Analysis K 321	1.50	M3	25,645.40	38,468.10
2	subgrade preparation	Analysis K 342	5.00	M2	785.89	3,929.44
3	Lean concrete T=10 cm K=125	Analysis G.2	0.50	M3	766,210.00	383,105.00
4	wermes + dowell	Analysis G.14	48.80	Kg	16,688.00	814,374.40
5	Casting concrete T=20 cm K 350	Analysis G.12	1.00	M3	951,106.00	951,106.00
	Concrete road price per 1 M3					2,190,982.94
	Concrete road price per 1 M2					438,196.59
	RIGID PAVEMENT		31,242.47	M2	438,196.59	13,690,341,532.47
B	PAVING BLOCK					
1	Paving Block	Analysis M.53	13,526.61	M2	112,080.80	1,516,073,270.09
	TOTAL B					1,516,073,270.09

BILL OF QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION
LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

XI MOSQUE CONSTRUCTION

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
I Preparation Works						
1	Mobilization and Demolition	Ls	1.00	Ls	2,500,000.00	2,500,000.00
2	Measurement and construction board	Analysis A.4	124.00	M'	45,825.00	5,682,300.00
Sub Total I						8,182,300.00
II Land Works						
1	Digging soil for poundation foot plate	Analysis B.2	38.28	M3	34,425.00	1,317,789.00
2	Digging soil for poundation staa	Analysis B.1	29.61	M3	27,875.00	825,378.75
3	Back Fill Foot Plate	Analysis B.9	26.61	M3	9,270.00	246,674.70
4	Back Fill Staal	Analysis B.9	13.40	M3	9,270.00	124,218.00
5	Tie Beam Digging	Analysis B.1	4.98	M3	27,875.00	138,817.50
6	Imported soil	Analysis B.17	57.00	M3	75,175.00	4,284,975.00
7	Compacted soil	Analysis B.10	57.00	M3	20,750.00	1,182,750.00
Sub Total II						8,120,602.95
III Foundation Works						
1	Sand Fill	Analysis B.11	1.41	M ³	122,750.00	173,077.50
2	Aanstamping	Analysis C.6	2.48	M3	291,801.00	723,666.48
3	Foundation 1:4	Analysis C.2	59.12	M3	545,425.00	32,245,526.00
4	Sand Fill Foot Plate	Analysis B.11	1.28	M3	122,750.00	157,120.00
5	Lean Concrete Foot Plate	Analysis G.34	2.55	M3	815,002.00	2,078,255.10
6	Reinforcedment foot plate dim 100 x 100 cm	Analysis G.14	391.94	Kg	16,688.00	6,540,694.72
7	Reinforcedment foot plate dim 80 x 80 cm	Analysis G.14	355.14	Kg	16,688.00	5,926,576.32
8	Foot Plate Concrete Casting P1 dim. 100x100 cm K225	Analysis G.7	5.60	M3	860,887.50	4,820,970.00
9	Foot Plate Concrete Casting P2 dim. 80x80 cm K225	Analysis G.7	4.61	M3	860,887.50	3,968,691.38
10	Pole Fondation Concrete type K1 dim. 30x30 cm	Analysis G.14	527.84	Kg	16,409.50	8,661,590.48
11	Pole Fondation Concrete type K2 dim. 25x25 cm	Analysis G.14	470.98	Kg	16,409.50	7,728,546.31
12	Foot Plate Formwork Type K1	Analysis G.19	12.60	M2	170,125.00	2,143,575.00
13	Foot Plate Formwork Type K2	Analysis G.19	11.20	M2	170,125.00	1,905,400.00
14	Pole Foot Concrete Casting Type K1 K225	Analysis G.7	3.15	M3	860,887.50	2,711,795.63
15	Pole Foot Concrete Casting Type K2 K225	Analysis G.7	2.81	M3	860,887.50	2,419,093.88
Sub Total III						82,204,578.79
IV Concrete And Colum Works						

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
1	Foot plate Lean concrete f'c = 9,8 Mpa	Analysis G.34	0.74	M3	815,002.00	603,101.48
2	Reinforcedment Digging dim 15 x 40 cm	Analysis G.14	384.77	Kg	16,688.00	6,421,041.76
3	Digging Formwork dim 15 x 40 cm	Analysis G.18	32.00	M2	131,000.00	4,192,000.00
4	Digging Concrete dim 15 x 40 cm	Analysis G.7	2.40	M3	860,887.50	2,066,130.00
5	Reinforcedment Digging dim 12 x 30 cm	Analysis G.14	500.62	Kg	16,688.00	8,354,346.56
6	Digging Formwork dim 12 x 30 cm	Analysis G.18	26.25	M2	131,000.00	3,438,750.00
7	Digging Concrete dim 12 x 30 cm	Analysis G.7	3.15	M3	860,887.50	2,711,795.63
8	Reinforcedment Digging dim 12 x 30 cm	Analysis G.14	152.52	Kg	16,688.00	2,545,253.76
9	Digging Formwork dim 12 x 20 cm	Analysis G.18	9.40	M2	131,000.00	1,231,400.00
10	Digging Concrete dim 12 x 20 cm	Analysis G.7	1.13	M3	860,887.50	972,802.88
11	Reinforcedment Praticce dim 11 x 11 cm	Analysis G.14	118.50	Kg	16,688.00	1,977,528.00
12	Praticce Formwork dim 11 x 11 cm	Analysis G.19	15.40	M2	170,125.00	2,619,925.00
13	Concrete Casting of Colum Praticce dim11x11 cm K225	Analysis G.7	0.86	M3	860,887.50	740,363.25
14	Base Plate T= 12 mm	Analysis K2+K3	198.27	Kg	25,092.25	4,975,040.41
15	Steel Colum IWF 200x100x 12 mm	Analysis K2+K3	1,194.67	M3	25,092.25	29,976,958.31
16	Ancor Bolt Type K1	Analysis K1+K3	41.46	Kg	23,942.25	992,645.69
17	Formwork Colum type K1 dim. 15x25	Analysis G.19	44.80	M2	170,125.00	7,621,600.00
18	Concrete Casting Colum type K1 dim. 15x25 K225	Analysis G.7	2.10	M3	860,887.50	1,807,863.75
19	Reinforcedment Colum type K2 dim. 15x25	Analysis G.14	432.75	Kg	16,688.00	7,221,732.00
20	Formwork Colum type K2 dim. 15x25	Analysis G.19	46.80	M2	170,125.00	7,961,850.00
21	Concrete Casting Colum type K2 dim.15x25	Analysis G.7	2.19	M3	860,887.50	1,885,343.63
22	Reinforcedment Colum ringballk dim. 12x20 cm	Analysis G.14	707.47	Kg	16,688.00	11,806,259.36
23	Formwork ringballk dim. 12x20 cm	Analysis G.20	25.52	M2	179,125.00	4,571,270.00
24	Concrete Casting ringballk dim. 12x20 cm K225	Analysis G.7	4.49	M3	860,887.50	3,865,384.88
25	Reinforcedment Colum plat on tile t=10 cm	Analysis G.14	2,016.16	Kg	16,688.00	33,645,678.08
26	Formwork plat t=10 cm	Analysis G.21	265.40	M2	234,125.00	62,136,775.00
27	Concrete Casting plat t=10 cm K225	Analysis G.7	25.54	M3	860,887.50	21,987,066.75
28	Reinforcedment Dome	Analysis G.14	141.86	Kg	16,688.00	2,367,359.68
29	Formwork Dome	Analysis G.21	19.16	M2	234,125.00	4,485,835.00
30	Concrete Casting Dome t=12 cm K225	Analysis G.7	1.38	M3	860,887.50	1,188,024.75
	Sub Total IV					246,371,125.58
V	Wall And Profile Works					
1	Brick masonry 1:5 for wall	Analysis D.9	288.87	M2	56,600.00	16,350,042.00
2	Brick masonry 1:2 for wall	Analysis D.9	28.00	M2	56,600.00	1,584,800.00
3	Plaster 1:5	Analysis E.9	465.34	M2	34,810.50	16,198,718.07
4	Finishing wall	Analysis E.27	465.34	M2	23,322.50	10,852,892.15
5	Plaster plat roof 1:5	Analysis E.9	156.00	M2	34,810.50	5,430,438.00
6	Finishing Plat	Analysis E.27	408.23	M2	23,322.50	9,520,944.18
7	Ornamen	Ls	24.00	Bh	275,000.00	6,600,000.00
8	Finishing wall	Ls	6.00	Bh	225,000.00	1,350,000.00

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
9	tralis hollow	Ls	22.50	M2	300,000.00	6,750,000.00
10	Wall Accessories Profile	Ls	123.40	M'	15,000.00	1,851,000.00
11	Finishing Main Colum	Ls	16.00	Bh	200,000.00	3,200,000.00
12	Finishing Porch Colum	Ls	18.00	Bh	250,000.00	4,500,000.00
13	Plat Profile	Analysis E.29	106.30	M'	105,725.00	11,238,567.50
14	Beam Profile	Analysis E.29	5.00	M'	105,725.00	528,625.00
15	Dome Profile	Ls	1.00	Unit	2,500,000.00	2,500,000.00
	Sub Total V					98,456,026.90
VI	Sills Door And Window Works					
1	Alluminium Sills for Door and Window	Analysis K.9	322.00	M'	100,609.50	32,396,259.00
2	Alluminium Door Glass Frame Double	Analysis K.11	10.08	M2	1,032,190.00	10,404,475.20
3	aluminium mirror J1 + accessories	Analysis K.11	9.45	M2	1,032,190.00	9,754,195.50
4	Alluminium Door Glass Frame P1	Analysis K.11	1.68	M2	1,032,190.00	1,734,079.20
5	Alluminium Door Glass Frame Toilet	Ls	7.00	unit	650,000.00	4,550,000.00
6	Glass 3 mm thickness	Analysis L.16	51.60	M2	141,723.75	7,312,945.50
	Sub Total VI					66,151,954.40
VII	Truss and Roof works					
1	Steel truss pole IWF 200x100x12m	Analysis K2+K3	1,910.20	Kg	25,092.25	47,931,215.95
2	Iron purlin C 100x50x20x6m	Analysis K2+K3	947.42	Kg	25,092.25	23,772,899.50
3	Steel truss 2L 70.70.7	Analysis K2+K3	44.28	Kg	25,092.25	1,111,084.83
4	Lateral stiffner for purlin Ø 10 mm	Analysis K2+K3	97.13	Kg	25,092.25	2,437,210.24
5	Lateral stiffner for purlin Ø 8 mm	Analysis K2+K3	78.19	Kg	25,092.25	1,961,963.03
6	Ornamen Siger Lisplang	Ls	1.00	Ls	7,500,000.00	7,500,000.00
7	Galvalume Zink Metal	Ls	150.92	M2	125,000.00	18,865,000.00
8	Plentong Roof	Analysis H.3	150.92	M2	31,030.00	4,683,047.60
9	Palentong Ridge Tile	Analysis H.4	26.88	M'	57,880.00	1,555,814.40
	Sub Total VII					109,818,235.55
VIII	Cieling Works					
1	Gypsum Cieling and Cieling Frame (Hollow)	Ls	114.70	M2	125,000.00	14,337,500.00
	Sub Total VIII					14,337,500.00
IX	Ceramics works					
1	Sand Fill	Analysis B.11	14.55	M ³	122,750.00	1,786,012.50
2	Ceramics dimension 40 x 40 cm	Analysis M.9	225.00	M2	140,615.00	31,638,375.00
3	Plin Ceramics 10x40 cm	Analysis M.19	65.00	M'	22,194.00	1,442,610.00
4	Ceramics dimension 20 x 20 cm	Analysis M.26	69.05	M2	104,842.50	7,239,374.63
5	Wall Ceramics dimension 20 x 20 cm	Analysis M.43	112.40	M2	119,982.50	13,486,033.00
6	Ceramics Stair dim.33x33 cm	Analysis M.24	12.62	M2	124,259.00	1,568,148.58
	Sub Total IX					57,160,553.71
X	Plumbing Works					
1	Clean Water Installation PVC 3/4" Output	Analysis J.25	137.50	M'	15,208.88	2,091,221.00

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
2	Clean Water Installation PVC 2,5" Output	Analysis J.30	37.00	M'	32,162.00	1,189,994.00
3	Clean Water Installation PVC 3" Output	Analysis J.27	29.00	M'	53,474.50	1,550,760.50
4	Squatting porcelain	Ls	6.00	unit	245,000.00	1,470,000.00
5	Plastic Bathtube	Ls	6.00	bh	325,000.00	1,950,000.00
6	Floor drain	Ls	6.00	unit	25,000.00	150,000.00
7	Water Faucet Ø 1/2 "	Ls	18.00	bh	35,000.00	630,000.00
	Sub Total X					9,031,975.50
XI	Electrical installation works					
1	Electrical cable installation	Analysis O.5	40	ttk	188,470.00	7,538,800.00
2	Baret Lamp	Ls	10	bh	145,000.00	1,450,000.00
3	Up down light + SL lamp 18 watt	Ls	8	bh	175,000.00	1,400,000.00
4	Mercury Lamp	Ls	8	bh	120,000.00	960,000.00
5	SL Lamp 18 Watt + Accesories	Ls	12	bh	95,000.00	1,140,000.00
6	Stop contact	Analysis O.4	2	bh	47,720.00	95,440.00
7	Single Switch	Analysis O.3	9	bh	57,720.00	519,480.00
8	Double Switch	Analysis O.2	6	bh	77,720.00	466,320.00
9	Triple Switch	Analysis O.1	2	bh	97,720.00	195,440.00
10	Box panel penerangan (MDP.1)	Ls	1.00	set	1,750,000.00	1,750,000.00
	Sub Total XI					15,515,480.00
XII	Finishing And Painting Works					
1	Inside Wall Painting	Analysis N.11	558.92	M2	16,855.50	9,420,876.06
2	Outside Wall Painting	Analysis N.11	268.13	M2	16,855.50	4,519,465.22
3	Dome Painting	Ls	1.00	Unit	2,500,000.00	2,500,000.00
4	Plat Painting	Analysis N.11	252.23	M2	16,855.50	4,251,462.77
5	Roof Painting	Analysis N.16	41.08	M2	26,962.50	1,107,619.50
6	Tile Painting	Analysis N.22	109.20	M2	13,785.00	1,505,322.00
	Sub Total XII					23,304,745.54
	Sub Total					738,655,078.90
MOSQUE + TOILET AREA						285
COST PER M2						2,591,772.21

QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION

LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

XII CANTEENS AND ACCOMODATION

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	COEF	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
I Preparation Works							
1	Measurement and construction board	Analysis A.4	74.00	M'	1	45,825.00	3,391,050.00
Jumlah I							3,391,050.00
II Land Works							
1	Digging soil for poudation	Analysis B.3	122.20	M3	1	41,105.00	5,023,031.00
2	Back fill	Analysis B.9	103.23	M3	1	9,270.00	956,972.73
3	Heaps of Land Elevation Floor work	Analysis B.17	48.00	M3	1	75,175.00	3,608,400.00
4	Sand Badding	Analysis B.11	2.76	M3	1	122,750.00	338,790.00
Jumlah II							9,927,193.73
III Structure Works							
A Concrete Works Ground Floor							
1	Foot plate lean concrete f'c = 9,8 Mpa	Analysis G.2	4.03	M3	1	766,210.00	3,089,358.72
2	Foundation 1:4	Analysis C.2	27.60	M3	1	545,425.00	15,053,730.00
3	Concrete Foot plate Dim. 100 x 100 cm f'c = 19,3 Mpa	Analysis G.7	11.20	M3	1	860,887.50	9,641,940.00
4	Concrete for pole foot plate 25x25 f'c = 19,3 Mpa	Analysis G.7	2.45	M3	1	860,887.50	2,109,174.38
5	Colum Structure Concrete 25 x 25 f'c = 19,3 Mpa	Analysis G.7	6.30	M3	1	860,887.50	5,423,591.25
6	Concrete Casting Coloum Practice f'c = 19,3 Mpa	Analysis G.7	0.70	M3	1	860,887.50	600,004.15
7	Concrete Casting Tie Beam S3 Dim. 20/30 f'c = 19,3 Mpa	Analysis G.7	11.04	M3	1	860,887.50	9,504,198.00
8	Concrete Casting Beam Structure B2 Dim. 25/40 f'c = 19,3 Mpa	Analysis G.7	15.64	M3	1	860,887.50	13,464,280.50
9	Concrete Casting Foot Stairs 0.8 x 2.5 x 0.3	Analysis G.7	0.60	M3	1	860,887.50	516,532.50
10	Concrete Casting Pedestal Stairs	Analysis G.7	0.25	M3	1	860,887.50	215,221.88
11	Concrete Casting For Beam Stairs 20/30	Analysis G.7	0.65	M3	1	860,887.50	555,788.97
12	Concrete Casting For bordes Stairs	Analysis G.7	0.64	M3	1	860,887.50	553,640.19
13	Concrete Casting For Structure anak Stairs	Analysis G.7	2.52	M3	1	860,887.50	2,169,436.50
14	Concrete Casting Floor T=12 cm f'c = 31,2 Mpa	Analysis G.7	26.61	M3	1	860,887.50	22,908,257.70
15	Concrete Casting Suncreen T=10 cm f'c = 31,2 Mpa	Analysis G.7	0.83	M3	1	860,887.50	716,258.40
B Concrete Works First Floor							
1	Coloum Structure 0.25 x 0.25 f'c = 19,3 Mpa	Analysis G.7	6.30	M3	1.09	860,887.50	5,911,714.46
2	Concrete Casting Ring balk15/20 f'c = 19,3 Mpa	Analysis G.7	5.52	M3	1.09	860,887.50	5,179,787.91
3	Concrete Casting Suncreen T=10 cm f'c = 31,2 Mpa	Analysis G.7	0.83	M3	1.09	860,887.50	780,721.66
C Wermes First Ground Floor							

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	COEF	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
1	Concrete Foot plate Dim. 100 x 100 cm f'c = 19,3 Mpa	Analysis G.14	814.07	Kg	1	16,688.00	13,585,263.45
2	Concrete pole foot plate 25x25 f'c = 19,3 Mpa	Analysis G.14	286.15	Kg	1	16,688.00	4,775,296.74
3	Pek.Coloum Structure 25 x 25 f'c = 19,3 Mpa	Analysis G.14	735.82	Kg	1	16,688.00	12,279,334.48
4	Concrete Casting Coloum Practice f'c = 19,3 Mpa	Analysis G.14	141.48	Kg	1	16,688.00	2,361,032.48
5	Concrete Casting Tie Beam S3 Dim. 20/30 f'c = 19,3 Mpa	Analysis G.14	1,246.00	Kg	1	16,688.00	20,793,188.56
6	Concrete Casting Beam Structure B2 Dim. 25/40 f'c = 19,3 Mpa	Analysis G.14	1,680.85	Kg	1	16,688.00	28,050,096.93
7	Concrete Casting Foot Stairs 0.8 x 2.5 x 0.3	Analysis G.14	43.61	Kg	1	16,688.00	727,781.97
8	Concrete Casting Pedestal Stairs	Analysis G.14	22.82	Kg	1	16,688.00	380,851.37
9	Concrete Casting For Beam Stairs 20/30	Analysis G.14	98.53	Kg	1	16,688.00	1,644,301.77
10	Concrete Casting For bordes Stairs	Analysis G.14	73.38	Kg	1	16,688.00	1,224,635.20
11	Concrete Casting For Structure anak Stairs	Analysis G.14	454.96	Kg	1	16,688.00	7,592,410.34
12	Concrete Casting Floor T=12 cm f'c = 31,2 Mpa	Analysis G.14	2,064.79	Kg	1	16,688.00	34,457,172.80
13	Concrete Casting Sunscreen T=10 cm f'c = 31,2 Mpa	Analysis G.14	36.28	Kg	1	16,688.00	605,490.72
D Wermes First Floor							
1	Colum Structure 0.25 x 0.25 f'c = 19,3 Mpa	Analysis G.14	707.31	Kg	1.09	16,688.00	12,865,975.76
2	Concrete Casting Ring balk15/20 f'c = 19,3 Mpa	Analysis G.14	320.92	Kg	1.09	16,688.00	5,837,509.13
3	Concrete Casting Sunscreen T=10 cm f'c = 31,2 Mpa	Analysis G.14	34.88	Kg	1.09	16,688.00	634,417.84
E Formwork Ground Floor							
1	Concrete Colum foot plate 25x25 f'c = 19,3 Mpa	Analysis G.19	32.67	M2	1	170,125.00	5,557,416.67
2	Colum Structure 25 x 25 f'c = 19,3 Mpa	Analysis G.19	58.80	M2	1	170,125.00	10,003,350.00
3	Concrete Casting Colum Practice f'c = 19,3 Mpa	Analysis G.19	25.34	M2	1	170,125.00	4,311,648.00
4	Concrete Casting Tie Beam S3 Dim. 20/30 f'c = 19,3 Mpa	Analysis G.19	61.82	M2	1	170,125.00	10,517,127.50
5	Concrete Casting Beam Structure B2 Dim. 25/40 f'c = 19,3 Mpa	Analysis G.20	108.68	M2	1	179,125.00	19,466,409.38
6	Concrete Casting Foot Stairs 0.8 x 2.5 x 0.3	Analysis G.20	1.71	M2	1	179,125.00	307,071.43
7	Concrete Casting Pedestal Stairs	Analysis G.19	1.67	M2	1	170,125.00	283,541.67
8	Concrete Casting For Beam Stairs 20/30	Analysis G.19	6.46	M2	1	170,125.00	1,098,327.00
9	Concrete Casting For bordes Stairs	Analysis G.21	5.36	M2	1	234,125.00	1,254,722.70
10	Concrete Casting For Structure anak Stairs	Analysis G.23	11.14	M2	1	169,375.00	1,887,132.64
11	Concrete Casting Floor T=12 cm f'c = 31,2 Mpa	Analysis G.21	144.14	M2	1	234,125.00	33,746,253.06
12	Concrete Casting Sunscreen T=10 cm f'c = 31,2 Mpa	Analysis G.21	8.32	M2	1	234,125.00	1,947,920.00
F Formwork First Floor							
1	Pek.Coloum Structure 0.25 x 0.25 f'c = 19,3 Mpa	Analysis G.19	58.80	M2	1.09	170,125.00	10,903,651.50
2	Concrete Casting Ring balk15/20 f'c = 19,3 Mpa	Analysis G.19	29.44	M2	1.09	170,125.00	5,459,243.20
3	Concrete Casting Sunscreen T=10 cm f'c = 31,2 Mpa	Analysis G.21	8.32	M2	1.09	234,125.00	2,123,232.80
Jumlah III							355,075,444.24
IV Installation works							
A Ground Floor							
1	Brick masonry 1:5 for wall	Analysis D.9	336.58	M2	1	56,600.00	19,050,418.94
2	Brick masonry 1:2 for wall	Analysis D.7	46.75	M2	1	64,170.00	3,000,014.24
3	Plaster 1:5	Analysis E.10	719.91	M2	1	33,281.50	23,959,708.63

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	COEF	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
4	Finishing wall	Analysis E.27	719.91	M2	1	23,322.50	16,790,117.77
B First Floor							
1	Brick masonry 1:5 for wall	Analysis D.9	431.17	M2	1.09	56,600.00	26,600,903.05
2	Brick masonry 1:2 for wall	Analysis D.7	85.71	M2	1.09	64,170.00	5,995,028.45
3	Plaster 1:5	Analysis E.10	948.06	M2	1.09	33,281.50	34,392,616.19
4	Finishing wall	Analysis E.27	948.06	M2	1.09	23,322.50	24,101,130.99
Jumlah IV							153,889,938.25
V Sills Door And Window Works							
A Ground Floor							
1	Alluminium Sills for Door and Window	Analysis K.9	164.84	M1	1	100,609.50	16,584,469.98
2	Glass 3 mm thickness	Analysis L.16	1.44	M2	1	141,723.75	204,082.20
3	Alluminium Door Glass Frame	Analysis F.11	21.60	M2	1	274,200.00	5,922,720.00
4	Door Leap Plywood Layer 3 mm thickness	Analysis F.12	16.80	M2	1	391,475.00	6,576,780.00
5	Fiber Glas	H. Satuan	6.00	Unit	1	190,000.00	1,140,000.00
6	Door Hinge	Analysis L.5	30.00	Bh	1	44,727.00	1,341,810.00
7	Key Planted Cyllinder	Analysis L.2	10.00	Bh	1	103,775.00	1,037,750.00
8	Planted For Bathroom	Analysis L.3	9.00	Bh	1	63,137.50	568,237.50
9	Door handle	H. Satuan	10.00	Bh	1	75,000.00	750,000.00
B First Floor							
1	Alluminium Sills for Door and Window	Analysis K.9	191.86	M1	1.09	100,609.50	21,040,203.15
2	Glass 3 mm thickness	Analysis L.16	2.64	M2	1.09	141,723.75	407,824.26
3	Alluminium Door Glass Frame	Analysis F.11	18.90	M2	1.09	274,200.00	5,648,794.20
4	Door Leap Plywood Layer 3 mm thickness	Analysis F.12	18.48	M2	1.09	391,475.00	7,885,559.22
5	Fiber Glas	H. Satuan	11.00	Unit	1.09	190,000.00	2,278,100.00
6	Door Hinge	Analysis L.5	33.00	Bh	1.09	44,727.00	1,608,830.19
7	Key Planted Cyllinder	Analysis L.2	11.00	Bh	1.09	103,775.00	1,244,262.25
8	Planted For Bathroom	Analysis L.3	11.00	Bh	1.09	63,137.50	757,018.63
9	Door handle	H. Satuan	11.00	Bh	1.09	75,000.00	899,250.00
Jumlah V							75,895,691.58
VI Truss and Roof works							
1	Iron purlin painting C 100 x 50 x 20 x 1.6 (P)	Analysis K2+K3	1,572.48	Kg	1.09	25,092.25	43,008,196.80
2	Steel truss 2L 60.60.6	Analysis K2+K3	3,110.88	Kg	1.09	25,092.25	85,084,151.87
3	Steel truss 2L 50.50.5	Analysis K2+K3	1,883.87	Kg	1.09	25,092.25	51,524,775.50
4	Bolt Ø 16	Analysis K2+K3	239.62	Kg	1.09	25,092.25	6,553,629.99
5	Base Plat T 22 mm	Analysis K2+K3	235.50	Kg	1.09	25,092.25	6,441,055.11
6	Sagrod Ø 10 mm	Analysis K2+K3	177.70	Kg	1.09	25,092.25	4,860,303.16
7	Trek stang installation (TR)Ø 19 mm	Analysis K2+K3	535.20	Kg	1.09	25,092.25	14,638,015.70
8	Gavalum sheet metal	Analysis H.28	584.52	Kg	1.09	110,465.00	70,380,211.96
9	Gavalum sheet metal list plank	Analysis H.28	434.22	m'	1.09	36,821.67	17,427,740.45
Jumlah VI							299,918,080.53

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	COEF	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
VII	Cieling Works						
A	Ground Floor						
1	Gypsum Cieling and Cieling Frame (Hollow)	Ls	236.03	M2	1	140,000.00	33,044,648.00
B	First Floor						
1	Gypsum Cieling and Cieling Frame (Hollow)	Ls	312.00	M2	1.09	140,000.00	47,611,200.00
	Jumlah VII						80,655,848.00
VIII	Ceramics works						
A	Ground Floor						
1	Sand Bedding	Analysis B.11	11.80	M ³	1	122,750.00	1,448,653.77
2	Ceramics dimension 40 x 40 cm	Analysis M.42	224.61	M2	1	140,615.00	31,583,085.18
3	Pas. Step noizing Stairs	Ls	104.00	bh	1	15,000.00	1,560,000.00
4	Plin Ceramics	Analysis M.19	149.40	M'	1	22,194.00	3,315,783.60
5	Ceramics dimension 20 x 20 cm	Analysis M.26	11.43	M2	1	104,842.50	1,197,972.34
6	Wall Ceramics dimension 20 x 20 cm	Analysis M.43	29.22	M2	1	119,982.50	3,505,816.66
B	First Floor						
1	Sand Bedding	Analysis B.11	11.80	M ³	1.09	122,750.00	1,579,032.60
2	Pasangan Floor keramik 40 x 40 cm	Analysis M.42	215.08	M2	1.09	140,615.00	32,966,122.58
3	Plin Ceramics	Analysis M.19	152.39	M'	1.09	22,194.00	3,686,488.21
4	Ceramics dimension 20 x 20 cm	Analysis M.26	20.95	M2	1.09	104,842.50	2,393,948.06
5	Wall Ceramics dimension 20 x 20 cm	Analysis M.43	53.57	M'	1.09	119,982.50	7,005,790.29
	Jumlah VIII						90,242,693.29
IX	Electrical installation works						
A	Ground Floor						
1	Pekerjaan Instalasi Kabel Listrik	Analysis O.5	32.00	TTk	1	188,470.00	6,031,040.00
2	SL Lamp 18 Watt + Accesories	Harga Satuan	27.00	Bh	1	95,000.00	2,565,000.00
3	Stop contact	Analysis O.4	5.00	Bh	1	47,720.00	238,600.00
4	Single Switch	Analysis O.3	6.00	Bh	1	57,720.00	346,320.00
5	Single Switch and Stop contact	Analysis O.6	12.00	Bh	1	75,720.00	908,640.00
6	Pek. Kotak DP 1 fase lengkap	Ls	2.00	bh	1	2,500,000.00	5,000,000.00
B	First Floor						
1	Pekerjaan Instalasi Kabel Listrik	Analysis O.5	34	ttk	1.09	188,470.00	6,984,698.20
2	SL Lamp 18 Watt + Accesories	Harga Satuan	29	ttk	1.09	95,000.00	3,002,950.00
3	Stop contact	Analysis O.4	5	bh	1.09	47,720.00	260,074.00
4	Single Switch	Analysis O.3	11	bh	1.09	57,720.00	692,062.80
5	Single Switch and Stop contact	Analysis O.6	11	bh	1.09	75,720.00	907,882.80
6	Pek. Kotak DP 1 fase lengkap	Analysis O.3	2	bh	1.09	2,500,000.00	5,450,000.00
	Jumlah IX						32,387,267.80
X	Painting works						
A	Ground Floor						

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	COEF	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
1	Wall Painting	Analysis N.11	719.91	M2	1	16,855.50	12,134,455.14
2	Cieling Painting	Analysis N.11	236.03	M2	1	16,855.50	3,978,457.60
B First Floor							
1	Wall Painting	Analysis N.11	312.00	M2	1.09	16,855.50	5,732,218.44
2	Cieling Painting	Analysis N.11	256.00	M2	1.09	16,855.50	4,703,358.72
3	Pek. Pengecatan Gording Besi C 200 X 75 X 20 X 3.2	Analysis N.16	133.06	M2	1.09	26,962.50	3,910,516.97
4	Pek. Pengecatan kuda-kuda Baja L 100,100.10	Analysis N.16	103.17	M2	1.09	26,962.50	3,032,076.03
Jumlah X							33,491,082.90
XI Plumbing Works							
A Ground Floor							
1	Clean Water Installation PVC 2" Input	Analysis J.29	168.00	M'	1	24,993.00	4,198,824.00
2	Clean Water Installation PVC 1/2" Devided	Analysis J.29	60.00	M'	1	24,993.00	1,499,580.00
3	Clean Water Installation PVC 3/4" Output	Analysis J.25	102.00	M'	1	15,208.88	1,551,305.76
4	Waste Water Installation PVC 2"	Analysis J.29	60.00	M'	1	24,993.00	1,499,580.00
5	Waste Water Installation PVC 4"	Analysis J.28	60.00	M'	1	74,787.00	4,487,220.00
6	Rain Fall Installation PVC 4"	Analysis J.30	32.00	M'	1	53,474.50	1,711,184.00
7	Squatting porcelain	Analysis J.2	6.00	bh	1	425,750.00	2,554,500.00
8	Floor Drain	Hr. sat	6.00	bh	1	20,000.00	120,000.00
B First Floor							
1	Clean Water Installation PVC 3/4" Output	Analysis J.25	68.00	M'	1.09	15,208.88	1,127,282.19
2	Waste Water Installation PVC 2"	Analysis J.29	35.00	M'	1.09	24,993.00	953,482.95
3	Waste Water Installation PVC 4"	Analysis J.28	36.00	M'	1.09	74,787.00	2,934,641.88
5	Squatting porcelain	Analysis J.2	11.00	bh	1.09	425,750.00	5,104,742.50
6	Floor Drain	Hr. sat	11.00	bh	1.09	20,000.00	220,000.00
JUMLAH XI							27,962,343.28
XII Finishing Works And Miscelaneous							
1	Hand steenless Stair	Ls	7.20	M'	1.00	450,000.00	3,240,000.00
JUMLAH XII							3,240,000.00
TOTAL							1,166,076,633.60
LUAS BANGUNAN (10 x 24 x 2 = 480 M2)							480.00
HARGA BANGUNAN KANTIN DAN WISMA PER M2							2,429,326.32

QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION
 LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

XIII FENCE AND GATE CONSTRUCTION

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
A	FENCE					
	VOLUME FENCE T=2 M PER 2,5 M					
1	Measurement and construction board	Analysis A.4	1.00	M'	45,825.00	45,825.00
2	Digging Soil For Foot Plate	Analysis B.2	0.29	M3	34,425.00	9,897.19
3	Back fill	Analysis B.9	0.12	M3	9,270.00	1,144.85
4	Sand Badding	Analysis B.11	0.01	M ³	40,852.25	408.52
5	Foot plate lean concrete f'c = 9,8 Mpa	Analysis G.34	0.02	M3	815,002.00	16,300.04
6	Reinforcedment foot plate dim. 50x50 cm	Analysis G.14	12.88	Kg	16,688.00	214,941.44
7	Concrete Casting foot plate dim. 50x50 cm	Analysis G.7	0.09	M3	860,887.50	75,327.66
8	Reinforcedment colum dim. 20x30 cm	Analysis G.14	25.71	Kg	16,409.50	421,888.25
9	Formwork colum dim. 20x30 cm	Analysis G.19	2.25	M2	170,125.00	382,781.25
10	Concrete Casting colum 20x30 cm	Analysis G.7	0.16	M3	860,887.50	137,742.00
11	Teabean Lean Concrete	Analysis G.34	0.02	M3	815,002.00	16,300.04
12	Reinforcedment Teabean dim. 15x20 cm	Analysis G.14	15.84	Kg	16,688.00	264,337.92
13	Formwork Teabean dim. 15x20 cm	Analysis G.18	1.00	M2	131,000.00	131,000.00
14	Concrete Casting teabean dim. 15x20 cm	Analysis G.7	0.08	M3	860,887.50	64,566.56
15	Precase concrete dim. 2500x50x5	Ls	4.00	bh	162,000.00	648,000.00
16	Finishing Colum	Ls	1.00	bh	150,000.00	150,000.00
	Cost Fence per 2,5 m					2,580,460.71
	Cost Fence per 1 m					1,032,184.28
	FENCE		1,450.00	M'	1,032,184.28	1,496,667,211.08
B	GATE					
1	Gate Construction	Ls	2.00	unit	350,000,000.00	700,000,000.00
	TOTAL B					700,000,000.00
C	SECURITY POS					
I	Land Works					
1	Digging soil for poudation	Analysis B.3	11.52	M3	41,105.00	473,529.60
2	Back fill	Analysis B.9	3.60	M3	9,270.00	33,372.00
3	Heaps of Land Elevation Floor work	Analysis B.17	5.60	M3	75,175.00	420,980.00
4	Sand Badding	Analysis B.11	2.80	M3	122,750.00	343,700.00
	Sub Total I					1,271,581.60
II	Structure Works					
A	Concrete Works					
1	Foundation 1:4	Analysis C.2	4.08	M3	545,425.00	2,225,334.00

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
2	Aanstamping	Analysis C.6	2.56	M3	291,801.00	747,010.56
3	Concrete Casting K225 untuk KP Dim. 11/11	Analysis G.7	0.36	M3	860,887.50	309,377.14
4	Concrete Casting sloof uk.15/20 f'c = 19,3 Mpa	Analysis G.7	0.48	M3	860,887.50	413,226.00
5	Concrete Casting Plat Sancreen T: 10 cm	Analysis G.7	0.50	M3	860,887.50	430,443.75
6	Ring Balk Dim. 15/25 f'c = 19,3 Mpa	Analysis G.7	0.48	M3	860,887.50	413,226.00
7	Concrete Casting Dak T=12 cm f'c = 19,3 Mpa	Analysis G.7	3.44	M3	860,887.50	2,961,497.77
8	Concrete Casting Lisplank 10/40	Analysis G.7	0.94	M3	860,887.50	812,126.83
B Wermes						
1	Concrete Casting K225 untuk KP Dim. 11/11	Analysis G.14	87.66	Kg	16,688.00	1,462,808.05
2	Concrete Casting sloof uk.15/20 f'c = 19,3 Mpa	Analysis G.14	64.60	Kg	16,688.00	1,078,012.76
3	Concrete Casting Plate Sancreen T: 10 cm	Analysis G.14	82.27	Kg	16,688.00	1,372,866.13
4	Ring Balk Dim. 15/25 f'c = 19,3 Mpa	Analysis G.14	64.60	Kg	16,688.00	1,078,012.76
5	Concrete Casting Dak T=12 cm f'c = 19,3 Mpa	Analysis G.14	471.67	Kg	16,688.00	7,871,218.15
6	Concrete Casting Lisplank 10/40	Analysis G.14	106.44	Kg	16,688.00	1,776,311.66
C Formwork						
1	Concrete Casting K225 untuk KP Dim. 11/11	Analysis G.19	13.07	M2	170,125.00	2,223,193.50
2	Concrete Casting sloof Struktur Dim. 15/20 f'c = 19,3 Mpa	Analysis G.18	6.40	M2	131,000.00	838,400.00
3	Concrete Casting Plat Sancreen T: 10 cm	Analysis G.21	5.00	M2	234,125.00	1,170,625.00
4	Concrete Ring Balk dim. 15/25 f'c = 19,3 Mpa	Analysis G.18	6.40	M2	131,000.00	838,400.00
5	Concrete Casting Dak T=12 cm f'c = 19,3 Mpa	Analysis G.21	28.67	M2	234,125.00	6,711,684.79
6	Concrete Casting Lisplank 10/40	Analysis G.18	31.45	M2	131,000.00	4,119,338.67
Sub Total II						38,853,113.51
III Installation works						
1	Brick masonry 1:5 for wall	Analysis D.9	46.93	M2	56,600.00	2,656,447.42
2	Brick masonry 1:2 for wall	Analysis D.7	7.65	M2	64,170.00	490,772.16
3	Plaster 1:5	Analysis E.10	109.16	M2	33,281.50	3,633,121.70
4	Finishing wall	Analysis E.27	109.16	M2	23,322.50	2,545,963.40
Sub Total III						9,326,304.67
IV Sills Door And Window Works						
1	Alluminium Sills for Door and Window	Analysis K.9	30.28	M1	100,609.50	3,046,455.66
2	Alluminium Door Leap	H. Satuan	1.00	Unit	450,000.00	450,000.00
3	Glass 3 mm thickness	Analysis L.16	2.16	M2	141,723.75	306,463.44
4	Alluminium Door Glass Frame	Analysis F.11	2.30	M2	274,200.00	630,879.36
5	Door Leap Plywood Layer 3 mm thickness	Analysis F.12	1.60	M2	391,475.00	626,360.00
6	Door Hinge	Analysis L.5	12.00	Bh	44,727.00	536,724.00
7	Window Hinge	Analysis L.6	24.00	Bh	26,482.50	635,580.00
8	Key Planted Regular	Analysis L.2	1.00	Bh	103,775.00	103,775.00

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
9	Planted For Bathroom	Analysis L.3	1.00	Bh	63,137.50	63,137.50
10	Door handle	H. Satuan	1.00	Bh	75,000.00	75,000.00
	Sub Total IV					6,474,374.96
V	Cieling Works					
1	Gypsum Cieling and Cieling Frame (Hollow)	Analysis F.42	28.00	M2	140,000.00	3,920,000.00
	Sub Total IV					3,920,000.00
VI	Ceramics works					
1	Ceramics dimension 40 x 40 cm	Analysis M.42	25.75	M2	140,615.00	3,620,836.25
2	Ceramics dimension 20 x 20 cm	Analysis M.26	2.25	M2	104,842.50	235,895.63
3	Wall Ceramics dimension 20 x 20 cm	Analysis M.43	7.65	M2	119,982.50	917,626.16
	Sub Total VI					4,774,358.04
VII	Painting works					
1	Wall Painting	Analysis N.11	109.16	M2	16,855.50	1,840,003.69
2	Cieling Painting	Analysis N.11	28.00	M2	16,855.50	471,954.00
	Sub Total VII					2,311,957.69
VIII	Electrical installation works					
1	Electrical cable installation	Analysis O.5	4.00	TTk	188,470.00	753,880.00
2	SL Lamp 18 Watt + Accesories	H. Satuan	4.00	Bh	95,000.00	380,000.00
3	Single Switch	Analysis O.3	1.00	Bh	57,720.00	57,720.00
4	Double Switch	Analysis O.2	1.00	Bh	77,720.00	77,720.00
5	Stop contact	Analysis O.4	1.00	Bh	47,720.00	47,720.00
	Sub Total VIII					1,317,040.00
	Sub Total C (I+II+III+IV+V+VI+VII+VIII)					68,248,730.47
	SECURITY POS		2.00	UNIT	68,248,730.47	136,497,460.93

BILL OF QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION
LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

XIV TRUCKS SCALE

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
I Preparation Works						
1	Measurement and construction board	Ls	1.00	Ls	2,500,000.00	2,500,000.00
Sub Total I						2,500,000.00
II Land Works						
1	Digging soil for poudation	Analysis B.2	308.41	M3	34,425.00	10,617,014.25
Sub Total II						10,617,014.25
III Foundation And concrete						
1	Foundation bored pile D 35 T=40 m	Supl.BP.1	240.00	M'	254,870.00	61,168,800.00
2	Concrete pile D 35 T=40 m	Analysis G.55	23.09	M3	4,644,057.10	107,231,278.44
3	Sand Fill T=15 cm	Analysis B.11	28.04	M3	122,750.00	3,441,910.00
4	Lean Concrete T=10 cm	Analysis G.34	18.69	M3	815,002.00	15,232,387.38
5	Reinforcedment foundation	Analysis G.14	4,235.13	Kg	16,688.00	70,675,849.44
6	Plat and Wall Formwork	Analysis G.22	131.60	M2	179,125.00	23,572,850.00
7	Concrete Casting foundation fc=31,2 MPa	Analysis G.12	76.51	M3	951,106.00	72,769,120.06
8	Colum Reinforced dim. 30x30 cm	Analysis G.14	212.87	M2	16,688.00	3,552,374.56
9	Colum Formwork dim. 30x30 cm	Analysis G.19	18.00	M2	170,125.00	3,062,250.00
10	Concrete Casting Colum dim. 30x30 cm fc=31,2 MPa	Analysis G.12	1.35	M3	860,887.50	1,162,198.13
Sub Total III						361,869,018.00
IV Truss and Roof works						
1	Base Plate Thick of 12 mm	Analysis K.1	157.16	Kg	23,530.00	3,697,974.80
2	Steel Pipe Column dia 8"	Analysis K.2	41.80	Kg	24,680.00	1,031,624.00
3	Steel Pipe Stiffner dia 8"	Analysis K.2	41.80	Kg	24,680.00	1,031,624.00
4	Roof Steel Pipe	Analysis K.2	151.15	Kg	24,680.00	3,730,382.00
5	Join Plate t=12 mm	Analysis K.1	150.72	Kg	23,530.00	3,546,441.60
6	Gavalum sheet metal tile installation	Analysis H.26	176.00	M2	117,165.00	20,621,040.00
Sub Total IV						33,659,086.40
V Floor Works						
1	Sand Fill T=15 cm	Analysis B.11	11.44	M3	122,750.00	1,404,260.00
2	Lean Concrete T=10 cm	Analysis G.34	7.63	M3	815,002.00	6,218,465.26
3	Reinforced Concrete (wermes)	Analysis G.14	799.62	Kg	16,688.00	13,344,058.56
4	Concrete T=20 cm f'c=31,2 Mpa	Analysis G.12	15.26	M3	951,106.00	14,513,877.56
Sub Total V						35,480,661.38
VI Electrical installation works						
1	Electrical cable installation	Analysis O.5	22	ttk	188,470.00	4,146,340.00
2	Lamp TL 2x20 watt	Ls	20	bh	225,000.00	4,500,000.00
3	Stop contact	Analysis O.4	2	bh	47,720.00	95,440.00
4	Double Switch	Analysis O.2	2	bh	77,720.00	155,440.00
5	Triple Switch	Analysis O.1	2	bh	195,440.00	390,880.00
6	Hidrolik + Acecories Completely	Ls	1	unit	100,000,000.00	100,000,000.00
Sub Total VI						109,288,100.00
VII Painting Works						
1	Pipe Column and Tile Painting	Analysis N.17	140.36	M2	23,957.50	3,362,674.70
Sub Total VII						3,362,674.70
Sub Total						556,776,554.73

BILL OF QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION
LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

XV GARDEN AND GREEN AREA WORKS

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
1	Road Median Garden	Ls	1496.98	M'	450,000.00	673,641,000.00
2	Elephant Grass	Ls	6191.16	M2	30,000.00	185,734,800.00
3	Australian Grass	Ls	2063.72	M2	65,000.00	134,141,800.00
4	Trees					
	Mango Tree	Ls	100.00	Tree	175,000.00	17,500,000.00
	Sapodila Tree	Ls	100.00	Tree	175,000.00	17,500,000.00
	Palm Tree	Ls	100.00	Tree	250,000.00	25,000,000.00
	Mahoni Tree	Ls	100.00	Tree	165,000.00	16,500,000.00
	Akasia Tree	Ls	100.00	Tree	165,000.00	16,500,000.00
						1,086,517,600.00

BILL OF QUANTITY

WORKS : WHOLESALE MARKET CONSTRUCTION
LOCATION : PENENGAHAN - SOUTH LAMPUNG REGENCY

XVI BUILDING EQUIPMENTS

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
A MARKETING HALL						
1	Fiber tub dim. 210x110x100 cm (2000 L)	Ls	184.00	Unit	4,125,000.00	759,000,000.00
2	Fiber tub dim. 200x110x50 cm (1000 L)	Ls	92.00	Unit	1,793,000.00	164,956,000.00
3	Fire Hidran	Ls	12.00	Unit	5,000,000.00	60,000,000.00
TOTAL A						983,956,000.00
B ADMINISTRATION OFFICE						
1	Office Chair	Ls	323.00	unit	300,000.00	96,900,000.00
2	Office Table (1/2 biro)	Ls	130.00	unit	909,600.00	118,248,000.00
3	Jumbo table for canteen	Ls	20.00	unit	3,500,000.00	70,000,000.00
4	Meeting table	Ls	1.00	unit	42,105,600.00	42,105,600.00
5	Meeting chair		100.00	unit	612,000.00	61,200,000.00
6	Cupboard	Ls	28.00	unit	1,698,000.00	47,544,000.00
7	Filling Cabinet	Ls	26.00	unit	1,870,000.00	48,620,000.00
8	Whiteboard	Ls	4.00	Bh	850,000.00	3,400,000.00
9	Laboratory rack	Ls	5.00	Bh	5,500,000.00	27,500,000.00
10	Guest table in the Main Room	Ls	2.00	Unit	5,500,000.00	11,000,000.00
11	Director's chair	Ls	1.00	Unit	2,160,000.00	2,160,000.00
12	Director's table	Ls	1.00	Unit	1,500,000.00	1,500,000.00
13	Fire Hidran	Ls	4.00	Unit	5,000,000.00	20,000,000.00
14	AC (2 PK)	Ls	54.00	Unit	5,359,000.00	289,386,000.00
15	AC (1/2 PK)	Ls	4.00	Unit	2,587,000.00	10,348,000.00
TOTAL B						849,911,600.00
C STORAGE WAREHOUSE						
1	Wooden Crate rack	Ls	350.00	Unit	2,500,000.00	875,000,000.00
2	Fire Hidran	Ls	4.00	Unit	5,000,000.00	20,000,000.00
TOTAL C						895,000,000.00
D COLD STORAGE						
1	Wooden Crate (53x38x30)	Ls	1890.00	ktk	62,636.50	118,382,985.00
2	Wooden Crate rack	Ls	63.00	Unit	2,500,000.00	157,500,000.00
3	Mesin pendingin komplit (frezer)	Ls	7.00	Unit	62,370,000.00	436,590,000.00
4	Fire Hidran	Ls	1.00	Unit	5,000,000.00	5,000,000.00
TOTAL D						717,472,985.00
E WORKSHOP WOODEN CRATE						
1	Circle machine	Ls	10.00	unit	1,500,000.00	15,000,000.00
2	Labor equipment	Ls	10.00	Ls	500,000.00	5,000,000.00
3	Fire Hidran	Ls	1.00	Unit	5,000,000.00	5,000,000.00
TOTAL E						25,000,000.00

NO	DESCRIPTION	ANALYSIS	VOLUME	UNIT	UNIT PRICE (Rp.)	SUB TOTAL (Rupiah)
F	TEMPORARY GARBAGE (COMPOST)					
1	Washing Machines (steam)	Ls	1.00	unit	2,000,000.00	2,000,000.00
2	1 Set Bin procurement	Ls	1.00	Set	500,000.00	500,000.00
3	Enumerators garbage Machine procurement type MPO HD, Capacity 600 - 700 kg/hour Diesel 8,5 HP/2200 rpm	Ls	1.00	unit	72,000,000.00	72,000,000.00
4	Sieving machine procurement Type MPP 3000, capacity 1-1.5 tons/hour, Diesel motor 5,5 PK + Reducer	Ls	1.00	unit	60,000,000.00	60,000,000.00
5	procurement fermentation - Liquid Bioaktivator - Solid Bioaktivator -Fermentation bin cap. 200 - 300 kg	Ls Ls Ls	10.00 10.00 5.00	btl kg Set	150,000.00 50,000.00 150,000.00	1,500,000.00 500,000.00 750,000.00
6	Packer Equipment Procurement - Tailor machine Sack type KG-9 - Sealer	Ls Ls	1.00 1.00	Unit Unit	5,400,000.00 1,450,000.00	5,400,000.00 1,450,000.00
7	Fire Hidran	Ls	1.00	Unit	5,000,000.00	5,000,000.00
					TOTAL F	149,100,000.00
G	MOSQUE					
1	Sound system	Ls	1.00	unit	12,500,000.00	12,500,000.00
2	Podium mimbar	Ls	1.00	Unit	1,500,000.00	1,500,000.00
3	Fire Hidran	Ls	1.00	Unit	5,000,000.00	5,000,000.00
					TOTAL G	19,000,000.00
H	KANTIN DAN WISMA					
1	Canteen chair	Ls	120.00	unit	175,000.00	21,000,000.00
2	Canteen table	Ls	24.00	unit	850,000.00	20,400,000.00
3	Little table for bedroom	Ls	11.00	unit	350,000.00	3,850,000.00
4	bedroom chair	Ls	22.00	unit	225,000.00	4,950,000.00
5	Spring bed	Ls	22.00	unit	2,500,000.00	55,000,000.00
6	Cupboard	Ls	11.00	unit	1,698,000.00	18,678,000.00
7	AC (3/4 PK)	Ls	11.00	Unit	2,850,000.00	31,350,000.00
8	Fire Hidran	Ls	2.00	Unit	5,000,000.00	10,000,000.00
					TOTAL H	165,228,000.00
I	SECURITY POS					
1	Table	Ls	4.00	unit	650,000.00	2,600,000.00
2	Chair	Ls	10.00	unit	300,000.00	3,000,000.00
3	Security equipment	Ls	2.00	set	7,500,000.00	15,000,000.00
4	Fire Hidran	Ls	2.00	Unit	5,000,000.00	10,000,000.00
					TOTAL I	30,600,000.00
					TOTAL OVERALL	3,835,268,585.00

Unit Price Analysis

Project : **Agrobusiness Terminal Development**
 Location : **Jl. Lintas Sumatera Kec. Penengahan South Lampung Regency**

Code Kode Analisis	Works Description	Unit	Index	Unit Price Material / Labor (Rp)	Sum	
A. PREPARATION WORKS						
Analysis A.2	1 m' Temporary Fence From Zinc Wave 2 m Height					
	Material	Dolken Wood classified III Ø 8 - 10/400 cm	Bar	1.2500	16,000.00	20,000.00
		Portland Cement	Kg	2.5000	1,100.00	2,750.00
		Concrete Sand	M3	0.0050	143,000.00	715.00
		Coral	M3	0.0090	250,500.00	2,254.50
		Zinc Wave 3" x 6" BJLS 28	Sheet	1.4000	36,750.00	51,450.00
		Nail 5 - 12 cm	Kg	0.0600	20,000.00	1,200.00
		Base Coad For Iron	Litre	0.4500	9,000.00	4,050.00
	Labor	Carpenter	MD	0.2000	55,000.00	11,000.00
		worker	MD	0.4000	35,000.00	14,000.00
		Head Foreman	MD	0.0200	60,000.00	1,200.00
		Foreman	MD	0.0200	65,000.00	1,300.00
	Number of Price Per Unit of Work					109,919.50
Analysis A.4	1 m' Site Measurement and Construction Board					
	Material	Wood Class III (5 x 7 cm)	M3	0.0120	1,850,000.00	22,200.00
		Nail 5 - 12 cm	Kg	0.0200	20,000.00	400.00
		Wood Class III (3 x 20 cm)	M3	0.0070	1,900,000.00	13,300.00
	Labor	Carpenter	MD	0.1000	55,000.00	5,500.00
		worker	MD	0.1000	35,000.00	3,500.00
		Head Foreman	MD	0.0100	60,000.00	600.00
		Foreman	MD	0.0050	65,000.00	325.00
	Number of Price Per Unit of Work					45,825.00
	Analysis A.5	1 m ² Project Office + Dirrection Kit with Plastering Floor				
Material		Dolken Wood classified III Ø 8 - 10/400 cm	Bar	1.2500	16,000.00	20,000.00
		Wood Class IV (Board)	M3	0.1800	1,500,000.00	270,000.00
		Nail 5 - 12 cm	Kg	0.8500	20,000.00	17,000.00
		Besi strip tebal 5 mm	Kg	1.1000	14,000.00	15,400.00
		Portland Cement	Kg	35.0000	1,100.00	38,500.00
		Sand	M3	0.1500	125,000.00	18,750.00
		Concrete Sand	M3	0.1000	143,000.00	14,300.00
		Coral	M3	0.1500	250,500.00	37,575.00
		Brick	Pcs	30.0000	300.00	9,000.00
		Zinc Plate 3" x 6" BJLS 28	Sheet	0.2500	36,750.00	9,187.50
		Jendela nako (rangka + kaca 5 mm)	M2	2.0000	160,000.00	320,000.00
		Plain Glass Thickness 5 mm	M2	0.0800	120,000.00	9,600.00
		Key Planted	Pcs	1.0000	50,000.00	50,000.00
		Plywood 4 mm Thick (120 x 240) cm	Sheet	0.0600	137,000.00	8,220.00
Labor		Carpenter	MD	2.0000	55,000.00	110,000.00
		Mason	MD	1.0000	55,000.00	55,000.00
		worker	MD	2.0000	35,000.00	70,000.00
		Head Foreman	MD	0.3000	60,000.00	18,000.00
		Foreman	MD	0.0500	65,000.00	3,250.00
	Number of Price Per Unit of Work					1,093,782.50
Analysis A.6	1 m ² Temporary Warehouse for Material & Equipment					
	Material	Dolken Wood classified III Ø 8 - 10/400 cm	Bar	1.7000	16,000.00	27,200.00
		Wood Class IV (Board)	M3	0.2100	1,500,000.00	315,000.00
		Nail 5 - 12 cm	Kg	0.3000	20,000.00	6,000.00
		Portland Cement	Kg	10.5000	1,100.00	11,550.00
		Concrete Sand	M3	0.0300	143,000.00	4,290.00

Code Kode Analisis	Works Description	Unit	Index	Unit Price Material / Labor (Rp)	Sum
	Coral	M3	0.0500	250,500.00	12,525.00
	Zinc Wave BJLS 28	Sheet	1.5000	54,600.00	81,900.00
Labor	Carpenter	MD	2.0000	55,000.00	110,000.00
	worker	MD	1.0000	35,000.00	35,000.00
	Head Foreman	MD	0.2000	60,000.00	12,000.00
	Foreman	MD	0.0500	65,000.00	3,250.00
Number of Price Per Unit of Work					618,715.00
B. SOIL WORKS					
Analysis B.1	1 M3 Digging Ordinary Soil 0 - 1 Metre Depth				
Labor	worker	MD	0.7500	35,000.00	26,250.00
	Foreman	MD	0.0250	65,000.00	1,625.00

Code Kode Analisis	Works Description	Unit	Index	Unit Price Material / Labor (Rp)	Sum	
	Number of Price Per Unit of Work				27,875.00	
Analysis B.2	1 M3 Digging Ordinary Soil 1- 2 Metre Depth					
	Labor	worker	MD	0.9000	35,000.00	31,500.00
		Foreman	MD	0.0450	65,000.00	2,925.00
	Number of Price Per Unit of Work				34,425.00	
Analysis B.3	1 M3 Digging Ordinary Soil 2- 3 Metre Depth					
	Labor	worker	MD	1.0500	35,000.00	36,750.00
		Foreman	MD	0.0670	65,000.00	4,355.00
	Number of Price Per Unit of Work				41,105.00	
Analysis B.9	1 M3 back fill works					
	Labor	worker	MD	0.2500	35,000.00	8,750.00
		Foreman	MD	0.0080	65,000.00	520.00
	Number of Price Per Unit of Work				9,270.00	
Analysis B.11	1 m3 Sand fill					
	Material	Sand fill	M3	1.2000	93,000.00	111,600.00
	Labor	worker	MD	0.3000	35,000.00	10,500.00
		Foreman	MD	0.0100	65,000.00	650.00
	Number of Price Per Unit of Work				122,750.00	
Analysis B.17	1 m 3 Compacted Back Fill for Building Levelling					
	Bahan	Selected Back Fill	M3	1.2000	54,000.00	64,800.00
	Labor	worker	MD	0.2500	35,000.00	8,750.00
		Foreman	MD	0.0250	65,000.00	1,625.00
	Number of Price Per Unit of Work				75,175.00	
C. FOUNDATION WORKS						
Analysis C.2	1 m 3 Stone Masonry Foundation, mix 1 : 4					
	Material	Rock Split 15 cm/20 cm	M3	1.2000	165,000.00	198,000.00
		Portland Cement	Kg	163.0000	1,100.00	179,300.00
		Sand	M3	0.5200	125,000.00	65,000.00
	Labor	worker	MD	1.5000	35,000.00	52,500.00
		Mason	MD	0.7500	55,000.00	41,250.00
		Head Foreman	MD	0.0750	60,000.00	4,500.00
		Foreman	MD	0.0750	65,000.00	4,875.00
	Number of Price Per Unit of Work				545,425.00	
Analysis C.6	1 m 3 Layered Stone for Foundation					
	Material	Rock Split 15 cm/20 cm	M3	1.2000	165,000.00	198,000.00
		Sand fill	M3	0.4320	93,000.00	40,176.00
	Labor	worker	MD	0.7800	35,000.00	27,300.00
		Mason	MD	0.3900	55,000.00	21,450.00
		Head Foreman	MD	0.0390	60,000.00	2,340.00
		Foreman	MD	0.0390	65,000.00	2,535.00
Number of Price Per Unit of Work				291,801.00		
D. BRICK WALLS WORKS						
Analysis D.7	1 m 2 Brick Wall size (5 x 11 x 22) cm half brick thick,mix space 1 : 2					
	Material	Brick	Pcs	70.0000	300.00	21,000.00
		Portland Cement	Kg	18.9500	1,100.00	20,845.00
		Sand	M3	0.0380	125,000.00	4,750.00
	Labor	worker	MD	0.3000	35,000.00	10,500.00
		Mason	MD	0.1000	55,000.00	5,500.00
		Head Foreman	MD	0.0100	60,000.00	600.00
		Foreman	MD	0.0150	65,000.00	975.00
Number of Price Per Unit of Work				64,170.00		
Analysis D.9	1 m 2 Brick Wall size (5 x 11 x 22) cm half brick thick ,mix space 1 : 4					
	Material	Brick	Pcs	70.0000	300.00	21,000.00
		Portland Cement	Kg	11.5000	1,100.00	12,650.00
		Sand	M3	0.0430	125,000.00	5,375.00
	Labor	worker	MD	0.3000	35,000.00	10,500.00

Code Kode Analisis	Works Description	Unit	Index	Unit Price Material / Labor (Rp)	Sum
	Mason	MD	0.1000	55,000.00	5,500.00
	Head Foreman	MD	0.0100	60,000.00	600.00
	Foreman	MD	0.0150	65,000.00	975.00
Number of Price Per Unit of Work					56,600.00

E. PLASTERING WORKS

Analysis E.10	1 m2 Plastering 1 : 5, 20 mm thick				
Material	Portland Cement	Kg	7.2900	1,100.00	8,019.00
	Sand	M3	0.0280	125,000.00	3,500.00
Labor	worker	MD	0.2500	35,000.00	8,750.00
	Mason	MD	0.2000	55,000.00	11,000.00
	Head Foreman	MD	0.0200	60,000.00	1,200.00
	Foreman	MD	0.0125	65,000.00	812.50

Code Kode Analisis	Works Description	Unit	Index	Unit Price Material / Labor (Rp)	Sum	
	Number of Price Per Unit of Work				33,281.50	
Analysis E.27	1 m2 Wall Finishing					
	Material	Portland Cement	Kg	5.4000	1,100.00	5,940.00
	Labor	worker	MD	0.2250	35,000.00	7,875.00
		Mason	MD	0.1525	55,000.00	8,387.50
		Head Foreman	MD	0.0100	60,000.00	600.00
		Foreman	MD	0.0080	65,000.00	520.00
	Number of Price Per Unit of Work				23,322.50	
Analysis E.29	200 M' Cement Profile Works					
	Material	Portland Cement	Kg	1,350.0000	1,100.00	1,485,000.00
		Sand	M3	2.3200	125,000.00	290,000.00
	Labor	worker	MD	90.0000	35,000.00	3,150,000.00
		Mason	MD	270.0000	55,000.00	14,850,000.00
		Head Foreman	MD	12.0000	60,000.00	720,000.00
		Foreman	MD	10.0000	65,000.00	650,000.00
		200 Meter	Number of Price Per Unit of Work			21,145,000.00
		1 Meter	Number of Price Per Unit of Work			105,725.00
	F. PEKERJAAN KAYU					
G. CONCRETE WORKS						
Analysis G.2	1 m 3 Concrete Structure, f'c = 9,8 MPa (K 125), slump (12 ± 2) cm, w/c = 0,78					
	Material	Portland Cement	Kg	276.0000	1,100.00	303,600.00
		Concrete Sand	M3	0.8280	143,000.00	118,404.00
		Coral	M3	1.0120	250,500.00	253,506.00
		Water	Litre	215.0000	50.00	10,750.00
	Labor	worker	MD	1.6500	35,000.00	57,750.00
		Mason	MD	0.2750	55,000.00	15,125.00
		Head Foreman	MD	0.0280	60,000.00	1,680.00
		Foreman	MD	0.0830	65,000.00	5,395.00
		Number of Price Per Unit of Work				766,210.00
Analysis G.7	1 m 3 Concrete Structure, f'c = 19,3 MPa (K 225), slump (12 ± 2) cm, w/c = 0,58					
	Material	Portland Cement	Kg	371.0000	1,100.00	408,100.00
		Concrete Sand	M3	0.6980	143,000.00	99,814.00
		Coral	M3	1.0470	250,500.00	262,273.50
		Water	Litre	215.0000	50.00	10,750.00
	Labor	worker	MD	1.6500	35,000.00	57,750.00
		Mason	MD	0.2750	55,000.00	15,125.00
		Head Foreman	MD	0.0280	60,000.00	1,680.00
		Foreman	MD	0.0830	65,000.00	5,395.00
		Number of Price Per Unit of Work				860,887.50
Analysis G.12	1 m 3 Concrete Structure, f'c = 31,2 MPa (K 350), slump (12 ± 2) cm, w/c = 0,48					
	Material	Portland Cement	Kg	448.0000	1,100.00	492,800.00
		Concrete Sand	M3	0.6670	143,000.00	95,381.00
		Coral	M3	1.0000	250,500.00	250,500.00
		Water	Litre	215.0000	50.00	10,750.00
	Labor	worker	MD	2.1000	35,000.00	73,500.00
		Mason	MD	0.3500	55,000.00	19,250.00
		Head Foreman	MD	0.0350	60,000.00	2,100.00
		Foreman	MD	0.1050	65,000.00	6,825.00
		Number of Price Per Unit of Work				951,106.00
Analysis G.14	10 kg steel bar fabrication with plain and deform steel bar					
	Material	Iron Concrete	Kg	10.5000	15,000.00	157,500.00
		Concrete Wire	Kg	0.1500	16,000.00	2,400.00
	Labor	worker	MD	0.0700	35,000.00	2,450.00
		Vulcan	MD	0.0700	55,000.00	3,850.00
		Head Foreman	MD	0.0070	60,000.00	420.00
	Foreman	MD	0.0040	65,000.00	260.00	

Code Kode Analysis	Works Description		Unit	Index	Unit Price Material / Labor (Rp)	Sum
	Number of Price Per Unit of Work					166,880.00
	Number of Price Per Unit of Work					16,688.00
Analysis G.17	1 m 2 Foundation formwork					
Material	Wood Class III (Board)	M3	0.0400	1,950,000.00	78,000.00	
	Nail 5 - 10 cm	Kg	0.3000	20,000.00	6,000.00	
	Formwork Oil	Litre	0.1000	15,000.00	1,500.00	
Labor	worker	MD	0.5200	35,000.00	18,200.00	
	Carpenter	MD	0.2600	55,000.00	14,300.00	
	Head Foreman	MD	0.0260	60,000.00	1,560.00	
	Foreman	MD	0.0260	65,000.00	1,690.00	
	Number of Price Per Unit of Work					121,250.00
Analysis G.18	1 m 2 Tie Beam formwork					
Material	Wood Class III (Board)	M3	0.0450	1,950,000.00	87,750.00	
	Nail 5 - 10 cm	Kg	0.3000	20,000.00	6,000.00	
	Formwork Oil	Litre	0.1000	15,000.00	1,500.00	
Labor	worker	MD	0.5200	35,000.00	18,200.00	
	Carpenter	MD	0.2600	55,000.00	14,300.00	
	Head Foreman	MD	0.0260	60,000.00	1,560.00	
	Foreman	MD	0.0260	65,000.00	1,690.00	
	Number of Price Per Unit of Work					131,000.00
Analysis G.19	1 m 2 Column formwork					
Material	Wood Class III (Board)	M3	0.0400		-	
	Nail 5 - 10 cm	Kg	0.4000	20,000.00	8,000.00	
	Formwork Oil	Litre	0.2000	15,000.00	3,000.00	
	Wood Class II (Beam)	M3	0.0150	3,000,000.00	45,000.00	
	Plywood 9 mm Thick	Sheet	0.3500	105,000.00	36,750.00	
	Dolken Wood classified III Ø 8 - 10/400	Bar	2.0000	16,000.00	32,000.00	
Labor	worker	MD	0.6600	35,000.00	23,100.00	
	Carpenter	MD	0.3300	55,000.00	18,150.00	
	Head Foreman	MD	0.0330	60,000.00	1,980.00	
	Foreman	MD	0.0330	65,000.00	2,145.00	
	Number of Price Per Unit of Work					170,125.00
Analysis G.20	1 m 2 Beam formwork					
Material	Wood Class III (Board)	M3	0.0400	-	-	
	Nail 5 - 10 cm	Kg	0.4000	20,000.00	8,000.00	
	Formwork Oil	Litre	0.2000	15,000.00	3,000.00	
	Wood Class II (Beam)	M3	0.0180	3,000,000.00	54,000.00	
	Plywood 9 mm Thick	Sheet	0.3500	105,000.00	36,750.00	
	Dolken Wood classified III Ø 8 - 10/400	Bar	2.0000	16,000.00	32,000.00	
Labor	worker	MD	0.6600	35,000.00	23,100.00	
	Carpenter	MD	0.3300	55,000.00	18,150.00	
	Head Foreman	MD	0.0330	60,000.00	1,980.00	
	Foreman	MD	0.0330	65,000.00	2,145.00	
	Number of Price Per Unit of Work					179,125.00
Analysis G.21	1 m 2 Slab Foundation formwork					
Material	Wood Class III (Board)	M3	0.0400	-	-	
	Nail 5 - 12 cm	Kg	0.4000	20,000.00	8,000.00	
	Formwork Oil	Litre	0.2000	15,000.00	3,000.00	
	Wood Class II (Beam)	M3	0.0150	3,000,000.00	45,000.00	
	Plywood 9 mm Thick	Sheet	0.3500	105,000.00	36,750.00	
	Dolken Wood classified III Ø 8 - 10/400	Bar	6.0000	16,000.00	96,000.00	
Labor	worker	MD	0.6600	35,000.00	23,100.00	
	Carpenter	MD	0.3300	55,000.00	18,150.00	
	Head Foreman	MD	0.0330	60,000.00	1,980.00	
	Foreman	MD	0.0330	65,000.00	2,145.00	
	Number of Price Per Unit of Work					234,125.00

Code Kode Analysis	Works Description	Unit	Index	Unit Price Material / Labor (Rp)	Sum	
Analysis G.22	Memasang 1 m 2 bekisting untuk dinding					
	Material	Wood Class IV (Board)	M3	0.0400	-	-
		Nail 5 - 12 cm	Kg	0.4000	20,000.00	8,000.00
		Formwork Oil	Litre	0.2000	15,000.00	3,000.00
		Wood Class III (Beam)	M3	0.0200	1,900,000.00	38,000.00
		Plywood 9 mm Thick	Sheet	0.3500	105,000.00	36,750.00
		Dolken Wood classified III Ø 8 - 10/400 cm	Bar	3.0000	16,000.00	48,000.00
		Formite/penjaga jarak begisting	Pcs		20,000.00	-
	Labor	worker	MD	0.6600	35,000.00	23,100.00
		Carpenter	MD	0.3300	55,000.00	18,150.00
		Head Foreman	MD	0.0330	60,000.00	1,980.00
		Foreman	MD	0.0330	65,000.00	2,145.00
	Number of Price Per Unit of Work					179,125.00
	Analysis G.23	1 m 2 Stair formwork				
Material		Wood Class III (Board)	M3	0.0400	-	-
		Nail 5 - 12 cm	Kg	0.4000	20,000.00	8,000.00
		Formwork Oil	Litre	0.1500	15,000.00	2,250.00
		Wood Class II (Beam)	M3	0.0150	3,000,000.00	45,000.00
		Plywood 9 mm Thick	Sheet	0.3500	105,000.00	36,750.00
		Dolken Wood classified III Ø 8 - 10/400	Bar	2.0000	16,000.00	32,000.00
Labor		worker	MD	0.6600	35,000.00	23,100.00
		Carpenter	MD	0.3300	55,000.00	18,150.00
		Head Foreman	MD	0.0330	60,000.00	1,980.00
		Foreman	MD	0.0330	65,000.00	2,145.00

Code Kode Analisis	Works Description	Unit	Index	Unit Price Material / Labor (Rp)	Sum
	Number of Price Per Unit of Work				169,375.00
Analysis G.30	1 m ³ wall concrete structure(150 kg steel weight + formwork)				
Material	Wood Class III (Board)	M3	0.2400	1,950,000.00	468,000.00
	Nail 5 - 12 cm	Kg	3.2000	20,000.00	64,000.00
	Formwork Oil	Litre	1.6000	15,000.00	24,000.00
	Iron Concrete	Kg	157.5000	15,000.00	2,362,500.00
	Concrete Wire	Kg	2.2500	16,000.00	36,000.00
	Portland Cement	Kg	336.0000	1,100.00	369,600.00
	Concrete Sand	M3	0.5400	143,000.00	77,220.00
	Coral	M3	0.8100	250,500.00	202,905.00
	Wood Class II (Beam)	M3	0.1600	3,000,000.00	480,000.00
	Plywood 9 mm Thick	Sheet	2.8000	105,000.00	294,000.00
	Dolken Wood classified III Ø 8 - 10/400	Bar	24.0000	16,000.00	384,000.00
Labor	worker	MD	5.3000	35,000.00	185,500.00
	Mason	MD	0.2750	55,000.00	15,125.00
	Carpenter	MD	1.3000	55,000.00	71,500.00
	Vulcan	MD	1.0500	55,000.00	57,750.00
	Head Foreman	MD	0.2620	60,000.00	15,720.00
	Foreman	MD	0.2650	65,000.00	17,225.00
	Number of Price Per Unit of Work				5,125,045.00
Analysis G.32	1 m' practice column (11 x 11) cm				
Material	Wood Class III (Board)	M3	0.0020	1,950,000.00	3,900.00
	Nail 5 - 12 cm	Kg	0.0100	20,000.00	200.00
	Iron Concrete	Kg	3.0000	15,000.00	45,000.00
	Concrete Wire	Kg	0.0450	16,000.00	720.00
	Portland Cement	Kg	4.0000	1,100.00	4,400.00
	Concrete Sand	M3	0.0060	143,000.00	858.00
	Coral	M3	0.0090	250,500.00	2,254.50
Labor	worker	MD	0.1800	35,000.00	6,300.00
	Mason	MD	0.0200	55,000.00	1,100.00
	Carpenter	MD	0.0200	55,000.00	1,100.00
	Vulcan	MD	0.0200	55,000.00	1,100.00
	Head Foreman	MD	0.0060	60,000.00	360.00
	Foreman	MD	0.0090	65,000.00	585.00
	Number of Price Per Unit of Work				67,877.50
Analysis G.33	1 m' ring concrete structure beam (10 x 15) cm				
Material	Wood Class III (Board)	M3	0.0030	1,950,000.00	5,850.00
	Nail 5 - 12 cm	Kg	0.0200	20,000.00	400.00
	Iron Concrete	Kg	3.6000	15,000.00	54,000.00
	Concrete Wire	Kg	0.0500	16,000.00	800.00
	Portland Cement	Kg	5.5000	1,100.00	6,050.00
	Concrete Sand	M3	0.0090	143,000.00	1,287.00
	Coral	M3	0.0150	250,500.00	3,757.50
Labor	worker	MD	0.2970	35,000.00	10,395.00
	Mason	MD	0.0330	55,000.00	1,815.00
	Carpenter	MD	0.0330	55,000.00	1,815.00
	Vulcan	MD	0.0330	55,000.00	1,815.00
	Head Foreman	MD	0.0100	60,000.00	600.00
	Foreman	MD	0.0150	65,000.00	975.00
	Number of Price Per Unit of Work				89,559.50
Analysis G.55	1 M3 Bore Pile				
	M3 Beton ADK 1Pc : 2Ps :3Sp (Anls G.7)	M3	1.0000	860,887.50	860,887.50
	Pembesian (Anls G.14)	Kg	226.7000	16,688.00	3,783,169.60
	Number of Price Per Unit of Work				4,644,057.10

H. ROOFING WORKS

Analysis H.3	1m ² Palentong Tile (Super Class)				
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Code Kode Analysis	Works Description		Unit	Index	Unit Price Material / Labor (Rp)	Sum
	Material	Palentong Tile Super	Pcs	12.0000	1,800.00	21,600.00
	Labor	worker	MD	0.1500	35,000.00	5,250.00
		Carpenter	MD	0.0600	55,000.00	3,300.00
		Head Foreman	MD	0.0060	60,000.00	360.00
		Foreman	MD	0.0080	65,000.00	520.00
	Number of Price Per Unit of Work					
Analysis H.4	1m' Pasang Palentong Ridge Tile					
	Material	Palentong Ridge Tile	Pcs	5.0000	3,750.00	18,750.00
		Portland Cement	Kg	8.0000	1,100.00	8,800.00
		Sand	M3	0.0320	125,000.00	4,000.00
	Labor	worker	MD	0.4000	35,000.00	14,000.00

Code Kode Analysis	Works Description	Unit	Index	Unit Price Material / Labor (Rp)	Sum	
	Carpenter	MD	0.2000	55,000.00	11,000.00	
	Head Foreman	MD	0.0200	60,000.00	1,200.00	
	Foreman	MD	0.0020	65,000.00	130.00	
	Number of Price Per Unit of Work				57,880.00	
Analysis H.26	1m ² Pasang Atap Genteng Metal polos					
	Material	Genteng Metal polos	Pcs	2.5000	40,000.00	100,000.00
		Nail 5 - 12 cm	Kg	0.2000	20,000.00	4,000.00
	Labor	worker	MD	0.2000	35,000.00	7,000.00
		Carpenter	MD	0.1000	55,000.00	5,500.00
		Head Foreman	MD	0.0100	60,000.00	600.00
		Foreman	MD	0.0010	65,000.00	65.00
	Number of Price Per Unit of Work				117,165.00	
Analysis H.28	1m ² Pasang Atap Galvalum Sheet Metal					
	Material	Galvalum Sheet Metal	Sheet	1.0200	95,000.00	96,900.00
		Nail 1-2,5 cm	Kg	0.0200	20,000.00	400.00
	Labor	worker	MD	0.2000	35,000.00	7,000.00
		Carpenter	MD	0.1000	55,000.00	5,500.00
		Head Foreman	MD	0.0100	60,000.00	600.00
		Foreman	MD	0.0010	65,000.00	65.00
	Number of Price Per Unit of Work				110,465.00	
	Lisplank Spandek				36,821.67	
Analysis H.30	1m ² Alluminium Foil Installation					
	Material	Alluminium Foil	M2	1.0500	3,950.00	4,147.50
	Labor	worker	MD	0.1500	35,000.00	5,250.00
		Carpenter	MD	0.0500	55,000.00	2,750.00
		Head Foreman	MD	0.0050	60,000.00	300.00
		Foreman	MD	0.0080	65,000.00	520.00
	Number of Price Per Unit of Work				12,967.50	
Analysis H.31	1m' Ridge Metal Roof					
	Material	Genteng Decra Bond	M2	1.0500	180,000.00	189,000.00
		Nail ½" - 1"	MD	0.0700	20,000.00	1,400.00
	Labor	worker	MD	0.2500	35,000.00	8,750.00
		Carpenter	MD	0.1500	55,000.00	8,250.00
		Head Foreman	MD	0.0150	60,000.00	900.00
		Foreman	MD	0.0130	65,000.00	845.00
	Number of Price Per Unit of Work				209,145.00	
I. PEKERJAAN LANGIT - LANGIT						
J. SANITATION WORKS						
Analysis J.1	Install 1 Pcs Sitting Toileted / Monoblock					
	Material	Toiled Sitting / Monoblock	Pcs	1.0000	2,000,000.00	2,000,000.00
		Accessories (30% from Material)	Set	0.3000	2,000,000.00	600,000.00
	Labor	worker	MD	3.3000	35,000.00	115,500.00
		Mason	MD	1.1000	55,000.00	60,500.00
		Head Foreman	MD	0.0010	60,000.00	60.00
		Foreman	MD	0.1600	65,000.00	10,400.00
	Number of Price Per Unit of Work				2,786,460.00	
Analysis J.2	Install 1 Pcs squatting porcelain					
	Material	Squatting porcelain	Pcs	1.0000	200,000.00	200,000.00
		Portland Cement	Kg	6.0000	1,100.00	6,600.00
		Sand	M3	0.0100	125,000.00	1,250.00
	Labor	worker	MD	1.0000	35,000.00	35,000.00
		Mason	MD	1.5000	55,000.00	82,500.00
		Head Foreman	MD	1.5000	60,000.00	90,000.00
		Foreman	MD	0.1600	65,000.00	10,400.00
	Number of Price Per Unit of Work				425,750.00	
Analysis J.4	Instal l1 Pcs Urinoir					

Code Kode Analysis	Works Description		Unit	Index	Unit Price Material / Labor (Rp)	Sum
	Material	Urinoir	Pcs	1.0000	650,000.00	650,000.00
		Accessories (30% from Material)	Set	0.3000	650,000.00	195,000.00
		Portland Cement	Kg	6.0000	1,100.00	6,600.00
		Sand	M3	0.0100	125,000.00	1,250.00
	Labor	worker	MD	1.0000	35,000.00	35,000.00
		Mason	MD	1.0000	55,000.00	55,000.00
		Head Foreman	MD	0.1000	60,000.00	6,000.00
		Foreman	MD	0.1000	65,000.00	6,500.00
	Number of Price Per Unit of Work					955,350.00
	Analysis J.5	Install 1 Pcs Wastafel				
Material		Wastafel	Pcs	1.0000	700,000.00	700,000.00
		Accessories (12% from Material)	Set	0.1200	700,000.00	84,000.00

Code Kode Analysis	Works Description		Unit	Index	Unit Price Material / Labor (Rp)	Sum
		Portland Cement	Kg	6.0000	1,100.00	6,600.00
		Sand	M3	0.0100	125,000.00	1,250.00
	Labor	worker	MD	1.0000	35,000.00	35,000.00
		Mason	MD	1.4500	55,000.00	79,750.00
		Head Foreman	MD	0.1500	60,000.00	9,000.00
		Foreman	MD	0.1000	65,000.00	6,500.00
	Number of Price Per Unit of Work					
Analysis J.24	Install 1 m' PVC Pipe Type AW Ø ½"					
Material	PVC Pipe Type AW Ø ½"		M'	1.2000	4,500.00	5,400.00
	Accessories (35% from Material)		Set	0.3500	4,500.00	1,575.00
Labor	worker		MD	0.0360	35,000.00	1,260.00
	Mason		MD	0.0600	55,000.00	3,300.00
	Head Foreman		MD	0.0060	60,000.00	360.00
	Foreman		MD	0.0018	65,000.00	117.00
Number of Price Per Unit of Work						12,012.00
Analysis J.25	Install 1 m' PVC Pipe Type AW Ø ¾"					
Material	PVC Pipe Type AW Ø ¾"		M'	1.2000	6,562.50	7,875.00
	Accessories (35% from Material)		Set	0.3500	6,562.50	2,296.88
Labor	worker		MD	0.0360	35,000.00	1,260.00
	Mason		MD	0.0600	55,000.00	3,300.00
	Head Foreman		MD	0.0060	60,000.00	360.00
	Foreman		MD	0.0018	65,000.00	117.00
Number of Price Per Unit of Work						15,208.88
Analysis J.26	Install 1 m' PVC Pipe Type AW Ø 1"					
Material	PVC Pipe Type AW Ø 1"		M'	1.2000	7,500.00	9,000.00
	Accessories (35% from Material)		Set	0.3500	7,500.00	2,625.00
Labor	worker		MD	0.0360	35,000.00	1,260.00
	Mason		MD	0.0600	55,000.00	3,300.00
	Head Foreman		MD	0.0060	60,000.00	360.00
	Foreman		MD	0.0018	65,000.00	117.00
Number of Price Per Unit of Work						16,662.00
Analysis J.27	Install 1 m' PVC Pipe Type AW Ø 3"					
Material	PVC Pipe Type AW Ø 3"		M'	1.2000	31,250.00	37,500.00
	Accessories (35% from Material)		Set	0.3500	31,250.00	10,937.50
Labor	worker		MD	0.0360	35,000.00	1,260.00
	Mason		MD	0.0600	55,000.00	3,300.00
	Head Foreman		MD	0.0060	60,000.00	360.00
	Foreman		MD	0.0018	65,000.00	117.00
Number of Price Per Unit of Work						53,474.50
Analysis J.29	Install 1 m' PVC Pipe Type AW Ø 2"					
Material	PVC Pipe Type AW Ø 2"		M'	1.2000	11,250.00	13,500.00
	Accessories (35% from Material)		Set	0.3500	11,250.00	3,937.50
Labor	worker		MD	0.0540	35,000.00	1,890.00
	Mason		MD	0.0900	55,000.00	4,950.00
	Head Foreman		MD	0.0090	60,000.00	540.00
	Foreman		MD	0.0027	65,000.00	175.50
Number of Price Per Unit of Work						24,993.00
Analysis J.30	Install 1 m' PVC Pipe Type AW Ø 2½"					
Material	PVC Pipe Type AW Ø 2½"		M'	1.2000	17,500.00	21,000.00
	Accessories (35% from Material)		Set	0.3500	17,500.00	6,125.00
Labor	worker		MD	0.0360	35,000.00	1,260.00
	Mason		MD	0.0600	55,000.00	3,300.00
	Head Foreman		MD	0.0060	60,000.00	360.00
	Foreman		MD	0.0018	65,000.00	117.00
Number of Price Per Unit of Work						32,162.00
Analysis J.31	Install 1 m' PVC Pipe Type AW Ø 4"					

Code Kode Analisis	Works Description		Unit	Index	Unit Price Material / Labor (Rp)	Sum	
	Material	PVC Pipe Type AW Ø 4"	M'	1.2000	45,000.00	54,000.00	
		Accessories (35% from Material)	Set	0.3500	45,000.00	15,750.00	
	Labor	worker	MD	0.0360	35,000.00	1,260.00	
		Mason	MD	0.0600	55,000.00	3,300.00	
		Head Foreman	MD	0.0060	60,000.00	360.00	
		Foreman	MD	0.0018	65,000.00	117.00	
	Number of Price Per Unit of Work					74,787.00	
K. ALLUMINIUM AND STEEL WORKS							
Analysis K.2	Install 1 kg IWF Steel Frame						
	Material	Iron Propile WF	Kg	1.1500	15,500.00	17,825.00	
		Labor	worker	MD	0.0600	35,000.00	2,100.00
			Construction welder	MD	0.0600	70,000.00	4,200.00

Code Kode Analysis	Works Description	Unit	Index	Unit Price Material / Labor (Rp)	Sum
	Head Foreman	MD	0.0060	60,000.00	360.00
	Foreman	MD	0.0030	65,000.00	195.00
	Number of Price Per Unit of Work				24,680.00
Analysis K.3	100 kg Steel Assembly				
Material	Indriual Diesel Oil	Litre	1.0000	9,000.00	9,000.00
	Lubricant	Litre	0.1000	30,000.00	3,000.00
Labor	worker	MD	0.1000	35,000.00	3,500.00
	Construction vulcan	MD	0.1000	55,000.00	5,500.00
	Head Foreman	MD	0.0010	60,000.00	60.00
	Foreman	MD	0.0050	65,000.00	325.00
Equipment	Steel Assembling Equipment	Hour	0.8000	24,800.00	19,840.00
	100 Kg	Number of Price Per Unit of Work			41,225.00
	1 Kg	Number of Price Per Unit of Work			412.25
Analysis K.9	Install 1 m alluminium door & frame				
Material	Alluminium Profile	M'	1.1000	85,000.00	93,500.00
	Skrup fixer	Pcs	2.0000	500.00	1,000.00
	Sealant	Tube	0.0600	20,000.00	1,200.00
Labor	worker	MD	0.0430	35,000.00	1,505.00
	Handyman special alluminium	MD	0.0430	70,000.00	3,010.00
	Head Foreman	MD	0.0043	60,000.00	258.00
	Foreman	MD	0.0021	65,000.00	136.50
	Number of Price Per Unit of Work				100,609.50
Analysis K.11	Install 1 m2 Alluminium Door Glass Frame				
Material	Alluminium Door	M'	4.4000	225,000.00	990,000.00
	Glass Profile	M'	4.5000	6,000.00	27,000.00
	Sealant	Tube	0.2700	20,000.00	5,400.00
Labor	worker	MD	0.0850	35,000.00	2,975.00
	Handyman special alluminium	MD	0.0850	70,000.00	5,950.00
	Head Foreman	MD	0.0090	60,000.00	540.00
	Foreman	MD	0.0050	65,000.00	325.00
	Number of Price Per Unit of Work				1,032,190.00
L. KEY AND GLASS WORKS					
Analysis L.1	1 Pcs Pasang Key Planted Antik				
Material	Key Planted Antik	Pcs	1.0000	350,000.00	350,000.00
Labor	worker	MD	0.0600	35,000.00	2,100.00
	Carpenter	MD	0.6000	55,000.00	33,000.00
	Head Foreman	MD	0.0600	60,000.00	3,600.00
	Foreman	MD	0.0030	65,000.00	195.00
	Number of Price Per Unit of Work				388,895.00
Analysis L.2	1 Pcs Pasang Key Planted Regular				
Material	Key Planted Regular	Pcs	1.0000	75,000.00	75,000.00
Labor	worker	MD	0.0100	35,000.00	350.00
	Carpenter	MD	0.5000	55,000.00	27,500.00
	Head Foreman	MD	0.0100	60,000.00	600.00
	Foreman	MD	0.0050	65,000.00	325.00
	Number of Price Per Unit of Work				103,775.00
Analysis L.3	Install 1 Pcs Key Planted For Bathroom				
Material	Key Planted For Bathroom	Pcs	1.0000	35,000.00	35,000.00
Labor	worker	MD	0.0050	35,000.00	175.00
	Carpenter	MD	0.5000	55,000.00	27,500.00
	Head Foreman	MD	0.0050	60,000.00	300.00
	Foreman	MD	0.0025	65,000.00	162.50
	Number of Price Per Unit of Work				63,137.50
Analysis L.4	Install 1 Pcs Lock cylindres				
Material	Lock cylindres	Pcs	1.0000	100,000.00	100,000.00
Labor	worker	MD	0.0050	35,000.00	175.00

Code Kode Analysis	Works Description	Unit	Index	Unit Price Material / Labor (Rp)	Sum
	Carpenter	MD	0.5000	55,000.00	27,500.00
	Head Foreman	MD	0.0050	60,000.00	300.00
	Foreman	MD	0.0025	65,000.00	162.50
	Number of Price Per Unit of Work				128,137.50
Analysis L.5	Install 1 Pcs Door Hinge				
Material	Engsel Pintu	Pcs	1.0000	35,000.00	35,000.00
Labor	worker	MD	0.0150	35,000.00	525.00
	Carpenter	MD	0.1500	55,000.00	8,250.00
	Head Foreman	MD	0.0150	60,000.00	900.00
	Foreman	MD	0.0008	65,000.00	52.00
	Number of Price Per Unit of Work				44,727.00
Analysis L.11	Install 1 Door Handle / Door Holder				
Material	Door Holder	Pcs	1.0000	147,000.00	147,000.00
Labor	worker	MD	0.0500	35,000.00	1,750.00
	Carpenter	MD	0.5000	55,000.00	27,500.00
	Head Foreman	MD	0.0500	60,000.00	3,000.00
	Foreman	MD	0.0025	65,000.00	162.50
	Number of Price Per Unit of Work				179,412.50
Analysis L.15	1 m2 Glass 5 mm thickness				
Material	Plain Glass Thickness 3 mm	M2	1.1000	100,000.00	110,000.00
Labor	worker	MD	0.0150	35,000.00	525.00
	Carpenter	MD	0.1500	55,000.00	8,250.00
	Head Foreman	MD	0.0150	60,000.00	900.00
	Foreman	MD	0.0008	65,000.00	48.75
	Number of Price Per Unit of Work				119,723.75
Analysis L.16	Install 1 Pcs Glass 5 mm thick				
Material	Plain Glass Thickness 5 mm	M2	1.1000	120,000.00	132,000.00
Labor	worker	MD	0.0150	35,000.00	525.00
	Carpenter	MD	0.1500	55,000.00	8,250.00
	Head Foreman	MD	0.0150	60,000.00	900.00
	Foreman	MD	0.0008	65,000.00	48.75
	Number of Price Per Unit of Work				141,723.75
M. FLOOR AND WALL COVERING WORKS					
Analysis M.9	Install 1 m2 Grey Tile (40 x 40) cm				
Material	Grey Tile 40 x 40 cm	Pcs	6.5600	16,000.00	104,960.00
	Portland Cement	Kg	9.8000	1,100.00	10,780.00
	Sand	M3	0.0450	125,000.00	5,625.00
	Colored Cement	Kg	0.2000	10,000.00	2,000.00
Labor	worker	MD	0.2500	35,000.00	8,750.00
	Mason	MD	0.1250	55,000.00	6,875.00
	Head Foreman	MD	0.0130	60,000.00	780.00
	Foreman	MD	0.0130	65,000.00	845.00
	Number of Price Per Unit of Work				140,615.00
Analysis M.19	Install 1 m2 Ceramic Tile (10 x 40) cm				
Material	Ceramic Plint 10 x 40 cm	Pcs	2.6500	4,000.00	10,600.00
	Portland Cement	Kg	1.1400	1,100.00	1,254.00
	Sand	M3	0.0030	125,000.00	375.00
	Colored Cement	Kg	0.1000	10,000.00	1,000.00
Labor	worker	MD	0.0900	35,000.00	3,150.00
	Mason	MD	0.0900	55,000.00	4,950.00
	Head Foreman	MD	0.0090	60,000.00	540.00
	Foreman	MD	0.0050	65,000.00	325.00
	Number of Price Per Unit of Work				22,194.00
Analysis M.26	Install 1 m2 grey tile (20 x 20) cm				
Material	Grey Tile 20 x 20 cm	Pcs	26.5000	2,250.00	59,625.00
	Portland Cement	Kg	10.4000	1,100.00	11,440.00

Code Kode Analisis	Works Description		Unit	Index	Unit Price Material / Labor (Rp)	Sum
		Sand	M3	0.0450	125,000.00	5,625.00
		Colored Cement	Kg	0.1000	10,000.00	1,000.00
	Labor	worker	MD	0.1500	35,000.00	5,250.00
		Mason	MD	0.3500	55,000.00	19,250.00
		Head Foreman	MD	0.0350	60,000.00	2,100.00
		Foreman	MD	0.0085	65,000.00	552.50
	Number of Price Per Unit of Work					
Analysis M.42	Install 1 m2 Wall Grey Tile (40x40 cm)					
Material		Grey Tile 40 x 40 cm	Pcs	6.5600	16,000.00	104,960.00
		Portland Cement	Kg	9.3000	1,100.00	10,230.00
		Sand	M3	0.0180	125,000.00	2,250.00
		Colored Cement	Kg	0.2000	10,000.00	2,000.00
Labor		worker	MD	0.7000	35,000.00	24,500.00
		Mason	MD	0.3000	55,000.00	16,500.00
		Head Foreman	MD	0.0300	60,000.00	1,800.00
		Foreman	MD	0.0300	65,000.00	1,950.00
Number of Price Per Unit of Work						164,190.00
Analysis M.43	Install 1 m2 Wall CeramicTile (20 x 20) cm					
Material		Ceramic 20 x 20 cm	Pcs	26.5000	2,500.00	66,250.00
		Portland Cement	Kg	9.3000	1,100.00	10,230.00
		Sand	M3	0.0180	125,000.00	2,250.00
		Colored Cement	Kg	0.1000	10,000.00	1,000.00
Labor		worker	MD	0.3500	35,000.00	12,250.00
		Mason	MD	0.4500	55,000.00	24,750.00
		Head Foreman	MD	0.0450	60,000.00	2,700.00
		Foreman	MD	0.0085	65,000.00	552.50
Number of Price Per Unit of Work						119,982.50

N. PAINTING WORKS

Analysis N.11	1 m ² Wall Painting (1 Plamir, 1 lapis Prime Coat, 2 Lapis Finishing Coad)					
Material		Plamir	Kg	0.1000	7,500.00	750.00
		Prime Coat	Kg	0.1000	36,000.00	3,600.00
		Wall Paint	Kg	0.2600	30,000.00	7,800.00
Labor		worker	MD	0.0200	35,000.00	700.00
		Painter	MD	0.0630	55,000.00	3,465.00
		Head Foreman	MD	0.0063	60,000.00	378.00
		Foreman	MD	0.0025	65,000.00	162.50
Number of Price Per Unit of Work						16,855.50
Analysis N.16	1 m ² Stee Painting with anti corrossion paint for steel structure and scaffolding					
Material		Base Coad For Iron	Kg	0.1000	9,000.00	900.00
		Kuas	Pcs	0.0100	10,000.00	100.00
		Wood Class IV (Board)	M3	0.0020	1,500,000.00	3,000.00
Labor		worker	MD	0.2500	35,000.00	8,750.00
		Painter	MD	0.2250	55,000.00	12,375.00
		Head Foreman	MD	0.0225	60,000.00	1,350.00
		Foreman	MD	0.0075	65,000.00	487.50
Number of Price Per Unit of Work						26,962.50

O. MECHANICAL AND ELECTRICAL WORKS

Analysis O.1	Install 1 Pcs Triple Switch					
Material		Triple Switch	Pcs	1.0000	75,000.00	75,000.00
	Labor		Electrical installers	MD	0.3200	48,500.00
		Electrical Installers Assist	MD	0.1600	45,000.00	7,200.00
Number of Price Per Unit of Work						97,720.00
Analysis O.2	Install 1 Pcs Double Switch					
Bahan		Double Switch	Pcs	1.0000	55,000.00	55,000.00
Labor		Electrical installers	MD	0.3200	48,500.00	15,520.00
		Electrical Installers Assist	MD	0.1600	45,000.00	7,200.00

Code Kode Analysis	Works Description	Unit	Index	Unit Price Material / Labor (Rp)	Sum	
	Number of Price Per Unit of Work				77,720.00	
Analysis O.3	Install 1 Pcs Single Switch					
	Material	Single Switch	Pcs	1.0000	35,000.00	35,000.00
	Labor	Electrical installers	MD	0.3200	48,500.00	15,520.00
		Electrical Installers Assist	MD	0.1600	45,000.00	7,200.00
	Number of Price Per Unit of Work				57,720.00	
Analysis O.4	Install 1 Pcs Stop Contact					
	Material	Stop Contact	Pcs	1.0000	25,000.00	25,000.00
	Labor	Electrical installers	MD	0.3200	48,500.00	15,520.00
		Electrical Installers Assist	MD	0.1600	45,000.00	7,200.00
	Number of Price Per Unit of Work				47,720.00	
Analysis O.5	1 Titik Instalasi Listrik					
	Material	NYYY 2,5 mm (3 x 2,5) Cable	M'	15.0000	8,500.00	127,500.00
		Assecories dihitung 30% dari Bahan	Titik	1.0000	38,250.00	38,250.00
	Labor	Electrical installers	MD	0.3200	48,500.00	15,520.00
		Electrical Installers Assist	MD	0.1600	45,000.00	7,200.00
Number of Price Per Unit of Work				188,470.00		
Supl.BP.1	1 M' Bored Pile Diameter 35 cm					
	Material	Bentonit	Kg	0.5000	75,000.00	37,500.00
		Eye Drill	Set	0.0090	12,000,000.00	108,000.00
	Labor	Digger/Bor	MD	0.0030	55,000.00	165.00
		Drill Operator	MD	0.0230	55,000.00	1,265.00
		Asisten Drill Operator	MD	0.0570	45,000.00	2,565.00
	Equipment	Foreman	MD	0.0030	65,000.00	195.00
		Crawler Crane	Hour	0.2100	266,000.00	55,860.00
		Bore Hole Machine	Hour	0.2100	110,000.00	23,100.00
		Jump	Hour	0.2100	60,000.00	12,600.00
	Generator Set	Hour	0.2270	60,000.00	13,620.00	
Number of Price Per Unit of Work				254,870.00		
SB.5	Supply and Install 1 M' Galvanize Pipe Dia 6"					
	Material	Pipa Galvanis Diameter 6"	M'	0.1670	250,000.00	41,750.00
	Labor	worker	MD	1.4550	35,000.00	50,925.00
		Plumber	MD	1.1820	55,000.00	65,010.00
		Head Foreman	MD	0.1190	60,000.00	7,140.00
		Foreman	MD	0.0730	65,000.00	4,745.00
	Equipment	Tools	Hour	1.0000	52,000.00	52,000.00
Number of Price Per Unit of Work				221,570.00		
SB.8	Supply & Install 1 M' Screen Pipe Dia 6"					
	Material	Screen Pipe Type Ø 6"	M'	0.1670	1,066,700.00	178,138.90
	Labor	worker	MD	1.4550	35,000.00	50,925.00
		Plumber	MD	1.1820	55,000.00	65,010.00
		Head Foreman	MD	0.1190	60,000.00	7,140.00
		Foreman	MD	0.0730	65,000.00	4,745.00
	Equipment	Tools	Hour	1.0000	52,000.00	52,000.00
Number of Price Per Unit of Work				357,958.90		
SB.12	Supply& Install 1 M' Grafel Pack dia 3.00 - 6.00 mm					
	Material	Grafel Pak 3 - 6 mm		1.0000	50,000.00	50,000.00
	Labor	worker	MD	0.7270	35,000.00	25,445.00
		Plumber	MD	0.0730	55,000.00	4,015.00
		Head Foreman	MD	0.1180	60,000.00	7,080.00
		Foreman	MD	0.1820	65,000.00	11,830.00
	Equipment	Tools	Hour	1.0000	52,000.00	52,000.00
Number of Price Per Unit of Work				150,370.00		
SB.13	1 M' Bore Works from 0 to 60 M					
	Material	Bentonit	Kg	1.1000	75,000.00	82,500.00
		Eye Drill Diameter 6"	Set	0.0100	1,000,000.00	10,000.00

Code Kode Analysis	Works Description		Unit	Index	Unit Price Material / Labor (Rp)	Sum
	Labor	Expert drill	MD	0.0300	60,000.00	1,800.00
	Equipment	Drill Operator	MD	0.2500	55,000.00	13,750.00
		Drill Operator Helper	MD	0.1500	45,000.00	6,750.00
		Foreman	MD	0.0300	65,000.00	1,950.00
		Bore Hole Machine	Hour	1.0000	110,000.00	110,000.00
		Jump	Hour	1.0000	60,000.00	60,000.00
		Generator Set	Hour	1.0000	60,000.00	60,000.00
Number of Price Per Unit of Work						346,750.00
SB.14	1 M' Bore Works from 60 to 160 M					
	Material	Bentonit	Kg	1.3500	75,000.00	101,250.00
		Eye Drill Diameter 6"	Set	0.0100	1,000,000.00	10,000.00
	Labor	Expert drill	MD	0.0350	60,000.00	2,100.00
	Equipment	Drill Operator	MD	0.2730	55,000.00	15,015.00
		Drill Operator Helper	MD	0.1640	45,000.00	7,380.00
		Foreman	MD	0.0350	65,000.00	2,275.00
		Bore Hole Machine	Hour	1.0000	110,000.00	110,000.00
		Jump	Hour	1.0000	60,000.00	60,000.00
		Generator Set	Hour	1.0000	60,000.00	60,000.00
Number of Price Per Unit of Work						368,020.00
SB.17	1 M' Reaming dia 10 - 12" dari 0 s/d 60 M					
	Material	Bentonit	Kg	1.3500	75,000.00	101,250.00
		Eye Drill Diameter 6"	Set	0.0110	1,000,000.00	11,000.00
	Labor	Expert drill	MD	0.0400	60,000.00	2,400.00
	Equipment	Drill Operator	MD	0.2750	55,000.00	15,125.00
		Drill Operator Helper	MD	0.1680	45,000.00	7,560.00
		Foreman	MD	0.0400	65,000.00	2,600.00
		Bore Hole Machine	Hour	1.0000	110,000.00	110,000.00
		Jump	Hour	1.0000	60,000.00	60,000.00
		Generator Set	Hour	1.0000	60,000.00	60,000.00
Number of Price Per Unit of Work						369,935.00
SB.18	1 M' Reaming dia 10 - 12" dari 60 s/d 160 M					
	Material	Bentonit	Kg	1.6000	75,000.00	120,000.00
		Eye Drill Diameter 6"	Set	0.0110	1,000,000.00	11,000.00
	Labor	Expert drill	MD	0.0450	60,000.00	2,700.00
	Equipment	Drill Operator	MD	0.3000	55,000.00	16,500.00
		Drill Operator Helper	MD	0.2000	45,000.00	9,000.00
		Foreman	MD	0.0400	65,000.00	2,600.00
		Bore Hole Machine	Hour	1.0000	110,000.00	110,000.00
		Jump	Hour	1.0000	60,000.00	60,000.00
		Generator Set	Hour	1.0000	60,000.00	60,000.00
Number of Price Per Unit of Work						391,800.00
SB.21	1 M' Electrical Longing Test					
	Labor	Expert drill	MD	0.0030	60,000.00	180.00
		Drill Operator	MD	0.0230	55,000.00	1,265.00
		Drill Operator Helper	MD	0.0570	45,000.00	2,565.00
		Foreman	MD	0.0030	65,000.00	195.00
	Equipment	Logging Test Equipment	Hour	0.9090	55,000.00	49,995.00
Number of Price Per Unit of Work						54,200.00
SB.22	1 Hour Pumping Test					
	Labor	Expert drill	MD	0.0030	60,000.00	180.00
		Drill Operator	MD	0.0230	55,000.00	1,265.00
		Drill Operator Helper	MD	0.0570	45,000.00	2,565.00
		Foreman	MD	0.0030	65,000.00	195.00
	Equipment	Jump	Hour	0.9090	60,000.00	54,540.00
	Generator Set	Hour	0.2270	60,000.00	13,620.00	
Number of Price Per Unit of Work						72,365.00

Code Kode Analysis	Works Description	Unit	Index	Unit Price Material / Labor (Rp)	Sum	
Spl G.51	1 M3 Grouting Semen					
	Material	Portland Cement	Kg	270.0000	1,100.00	297,000.00
	Labor	worker	MD	2.5000	35,000.00	87,500.00
		Head Foreman	MD	1.2000	60,000.00	72,000.00
		Foreman	MD	0.1500	65,000.00	9,750.00
Number of Price Per Unit of Work					466,250.00	
TP1	Install 1M' Concrete Pile					
	Labor	worker	MD	0.5000	35,000.00	17,500.00
		Plumber	MD	0.0500	55,000.00	2,750.00
		Foreman	MD	0.0300	65,000.00	1,950.00
	Equipment	Crane on Track 35 Ton (0,1556 Hour)	Hour	0.1556	500,000.00	77,800.00
		File driver Hamer (0,0904 Hour)	Hour	0.0904	45,000.00	4,068.00
		Equipment bantu	Ls	0.0500	50,000.00	2,500.00
Number of Price Per Unit of Work					106,568.00	
TP.2	Supply 1 M' Concrete Pile					
	1M' Bore Pile Ø 40 (on Siad diatas truck)	M1	1.0000	378,000.00	378,000.00	
	pemancangan / handling (18%dr Bahan)	Set	0.1800	378,000.00	68,040.00	
Number of Price Per Unit of Work					555,108.00	

WAGE UNIT PRICE, MATERIALS AND EQUIPMENT RENTAL

WORK : TERMINAL AGRIBUSINESS ESTABLISHMENT
LOCATION : JL. LINTAS SUMATERA KEC. PENENGAHAN
SOUTH LAMPUNG REGENCY

NO	TYPE OF WAGE	Wage Rates Rp.	Unit Rp.	Remark
1	worker	35,000.00	MD	
2	Mason	55,000.00	MD	
3	Vulcan	55,000.00	MD	
4	Construction vulcan	55,000.00	MD	
5	Painter	55,000.00	MD	
6	Digger	55,000.00	MD	
7	Carpenter	55,000.00	MD	
8	Handyman special alluminium	70,000.00	MD	
9	Construction welder	70,000.00	MD	
10	Welder	55,000.00	MD	
11	Head Foreman	60,000.00	MD	
12	Electrical installers	48,500.00	MD	
13	Electrical Installers Assist	45,000.00	MD	
14	Expert drill	60,000.00	MD	
15	Drill Operator	55,000.00	MD	
16	Drill Operator Helper	45,000.00	MD	
17	Plumber	55,000.00	MD	
18	Foreman	65,000.00	MD	
19	Skilled Workforce	35,000.00	MD	
20	Geodetic Surveyor	75,000.00	MD	
NO	TYPE OF MATERIAL	Material Price Rp.	Unit Rp.	Remark
1	Water	50.00	Litre	
2	Tools (set @ 3 Tools)	125,000.00	Set	
3	Alluminium B Quality	157,000.00	Kg	
4	Alluminium C Quality	131,000.00	Kg	
5	Alluminium strip	157,000.00	M'	
6	Sand Paper	3,500.00	Sheet	
7	Brick	300.00	Pcs	
8	Rock Split 15 cm/20 cm	165,000.00	m3	
9	Coral Stone	250,500.00	m3	
10	Iron Concrete	15,000.00	Kg	
11	Iron Propile	14,500.00	Kg	

NO	TYPE OF MATERIAL	Material Price Rp.	Unit Rp.	Remark
12	Iron Propile WF	15,500.00	Kg	
13	Double Angel L 30.30.3	15,500.00	Kg	
14	Wall Paint	30,000.00	Kg	
15	Base Coat	30,000.00	Kg	
16	Prime Coat	36,000.00	Kg	
17	Wood Paint	40,000.00	Kg	
18	Base Coad For Wood	15,000.00	Kg	
19	Base Coad For Iron	9,000.00	Kg	
20	Finishing Coad	17,000.00	Kg	
21	Iron Paint	39,000.00	Kg	
22	Filler	20,000.00	Kg	
23	Filler Jadi	26,000.00	Kg	
24	Dolken Wood classified III Ø 8 - 10/400 cm	16,000.00	Bar	
25	Door Closer	155,000.00	Pcs	
26	Door Holder	147,000.00	Pcs	
27	Door Stop	26,000.00	Pcs	
28	Palentong Ridge Tile	3,750.00	Pcs	
29	Genteng Palentong	1,500.00	Pcs	
30	Palentong Tile Super	1,800.00	Pcs	
31	NYY 2,5 mm (2 x 2,5) Cable	5,500.00	Meter	
32	NYY 2,5 mm (3 x 2,5) Cable	8,500.00	Meter	
33	Opaque Glass	135,000.00	m2	
34	Mirror Glass Thickness 5 mm	110,000.00	m2	
35	Mirror Glass Thickness 6 mm	125,000.00	m2	
36	Patri Glass Thickness 5 mm	1,600,000.00	m2	
37	Plain Glass Thickness 3 mm	100,000.00	m2	
38	Plain Glass Thickness 5 mm	120,000.00	m2	
39	Concrete Wire	16,000.00	Kg	
40	Electrical Welding Wire	15,000.00	Kg	
41	Wood Class II (Beam)	3,000,000.00	m3	
42	Wood Class II (Board)	3,400,000.00	m3	
43	Wood Class III (3 x 20 cm)	1,900,000.00	m3	
44	Wood Class III (5 x 7 cm)	1,850,000.00	m3	
42	Wood Class III (Beam)	1,900,000.00	m3	
43	Wood Class III (Board)	1,950,000.00	m3	
44	Wood Class IV (Board)	1,500,000.00	m3	
45	Wood Profile	19,000.00	m'	
46	Ceramic 10 x 20 cm	3,250.00	Pcs	
47	Ceramic 15 x 20 cm	1,250.00	Pcs	
49	Toiled Sitting / Monoblock	2,000,000.00	Pcs	
50	Coral	250,500.00	m3	
51	Water Faucet	25,000.00	Pcs	
52	Lock Latch	30,000.00	Pcs	
53	Lock cylinders	100,000.00	Pcs	
54	Key Planted	50,000.00	Pcs	

NO	TYPE OF MATERIAL	Material Price Rp.	Unit Rp.	Remark
55	Key Planted Regular	75,000.00	Pcs	
56	Key Planted For Bathroom	35,000.00	Pcs	
57	PVC Pipe Clamp Diameter 1"	500.00	Pcs	
58	PVC Pipe Clamp Diameter 1/2"	450.00	Pcs	
59	PVC Pipe Clamp Diameter 3"	1,500.00	Pcs	
60	PVC Pipe Clamp Diameter 3/4"	450.00	Pcs	
61	PVC Pipe Clamp Diameter 4"	2,000.00	Pcs	
62	PVC Elbow Diameter 1"	4,000.00	Pcs	
63	PVC Elbow Diameter 1/2"	3,000.00	Pcs	
64	PVC Elbow Diameter 3"	28,000.00	Pcs	
65	PVC Elbow Diameter 3/4"	3,000.00	Pcs	
66	PVC Elbow Diameter 4"	58,000.00	Pcs	
67	GIP Elbow Diameter 3/4"	4,500.00	Pcs	
68	SL Lamp 18 Watt	95,000.00	Pcs	
69	SL Lamp 24 Watt	31,000.00	Pcs	
70	TL Lamp 2 x 20 Watt Complete	275,000.00	Pcs	
71	Wood Glue	52,000.00	Kg	
72	Eye Drill Diameter 4"	800,000.00	Pcs	
73	Eye Drill Diameter 6"	1,000,000.00	Pcs	
74	Eye Drill Diameter 8"	2,000,000.00	Pcs	
75	Red Lead A	40,000.00	Kg	
76	Red Lead B	35,000.00	Kg	
77	Formwork Oil	15,000.00	Litre	
78	Oil Paint	15,000.00	Litre	
79	Lubricant	30,000.00	Litre	
80	Industrial Diesel Oil	9,000.00	Litre	
81	Nail 1-2,5 cm	20,000.00	Kg	
82	Nail 12 cm	20,000.00	Kg	
83	Nail 5 - 10 cm	20,000.00	Kg	
84	Nail 5 - 12 cm	20,000.00	Kg	
85	Nail 5 - 7 cm	20,000.00	Kg	
86	Nail 7 - 10 cm	20,000.00	Kg	
87	Nail ½" - 1"	20,000.00	Kg	
88	Nail ½" - 1" or Screw	20,000.00	Kg	
89	Nail ½" - 1"	20,000.00	Kg	
90	Nail 2- 5"	20,000.00	Kg	
91	Long Hook Nail 15 cm	18,000.00	Kg	
92	Fishing Spikes 60 x 230	22,000.00	Kg	
93	Screw Nail 1-2,5 cm	100.00	Pcs	
94	Screw Nail 10 cm	26,000.00	Kg	
95	Screw Nail 3,5 "	250.00	Pcs	
96	Screw Nail 5 cm	21,000.00	Kg	
97	Plywood Nail	20,000.00	Kg	
98	Concrete Sand	143,000.00	m3	
99	Sand	125,000.00	m3	

NO	TYPE OF MATERIAL	Material Price Rp.	Unit Rp.	Remark
100	Sand fill	93,000.00	m3	
101	Diluent	6,000.00	Litrer	
102	Timber Scaffolding	1,250,000.00	m3	
103	Alluminium Door	225,000.00	m2	
104	PVC Pipe Diameter 2,5 "	27,500.00	m'	
105	PVC Pipe Diameter 4 "	38,500.00	m'	
106	PVC Pipe Diameter 6 "	93,750.00	m'	
107	PVC Pipe Diameter 8 "	112,500.00	m'	
108	PVC Pipe Type AW Ø ½"	4,500.00	m'	
109	PVC Pipe Type AW Ø ¾"	6,562.50	m'	
110	PVC Pipe Type AW Ø 1"	7,500.00	m'	
111	PVC Pipe Type AW Ø 1½"	9,500.00	m'	
112	PVC Pipe Type AW Ø 2"	11,250.00	m'	
113	PVC Pipe Type AW Ø 2½"	17,500.00	m'	
114	PVC Pipe Type AW Ø 3"	31,250.00	m'	
115	PVC Pipe Type AW Ø 4"	45,000.00	m'	
116	Screen Pipe Type Ø 4"	583,300.00	m'	
117	Screen Pipe Type Ø 6"	1,066,700.00	m'	
118	Plamir	7,500.00	Kg	
119	Wall Plamir	13,500.00	Kg	
120	Ceramic Plint 10 x 40 cm	4,000.00	Pcs	
121	Plywood 4 mm Thick (120 x 240) cm	137,000.00	Sheet	
122	Plywood 4 mm Thick -(90 x 220) cm	125,000.00	Sheet	
123	Plywood 9 mm Thick	105,000.00	Sheet	
124	Water Jet Pump	3,500,000.00	Unit	
125	Summersible pump cap 2-3 Litre/Sec	13,500,000.00	Unit	
126	Alluminium Profile	85,000.00	m'	
127	Alluminium Profile " T "	24,000.00	m'	
128	Profil CT 6407-07	22,550.00	M'	
129	Glass Profile	6,000.00	m'	
130	Batten Profile RT. 15	138,875.00	Bar	
131	U Profil 85-06	200,750.00	Bar	
132	Ramset	13,000.00	Pcs	
133	Push Door Rails	185,000.00	Pcs	
134	Residue	15,000.00	Litre	
135	Tar Residue	15,000.00	Litrer	
139	Double Switch	55,000.00	Pcs	
140	Single Switch	35,000.00	Pcs	
141	Triple Switch	75,000.00	Pcs	
142	Grey Cement	10,000.00	Kg	
143	Red Cement	10,000.00	M3	
144	Nat Cement	10,000.00	Kg	
145	Portland Cement	1,100.00	Kg	
146	Colored Cement	10,000.00	Kg	
147	Zinc Wave 3" x 6" BJLS 28	36,750.00	Sheet	

NO	TYPE OF MATERIAL	Material Price Rp.	Unit Rp.	Remark
148	Zinc Wave BJLS 28	54,600.00	Sheet	
149	Zinc Plate 3" x 6" BJLS 28	36,750.00	Sheet	
150	Zinc Plate 3" x 6" BJLS 30	55,125.00	Sheet	
151	Alluminium Foil	3,950.00	m2	
152	Galvalum Sheet Metal	95,000.00	Sheet	
153	Stop Contact	25,000.00	Pcs	
154	Clay	47,000.00	M3	
155	Selected Back Fill	54,000.00	M3	
156	Plywood 3 mm Thick	48,500.00	Sheet	
157	Plywood 4 mm Thick	56,000.00	Sheet	
158	Plywood 6 mm Thick	90,000.00	Sheet	
159	Grey Tile 40 x 40 cm	16,000.00	Pcs	
160	Grey Tile 20 x 20 cm	2,250.00	Pcs	
161	Urinoir	650,000.00	Pcs	
162	Wastafel	700,000.00	Pcs	
	Equipment Rental			
1	Tools For Drilling Works	66,500.00	Hour	
2	Tools	52,000.00	Hour	
3	Logging Test Equipment	55,000.00	Hour	
4	Generator Set	60,000.00	Hour	
5	Bore Hole Machine	110,000.00	Hour	
6	Jump	60,000.00	Hour	
7	Electricity Welding Equipment	46,000.00	Hour	
8	Steel Assembling Equipment	24,800.00	Hour	
9	Compressor, Blasting Pot , Hose and Nozzle	89,000.00	Hour	
10	Dump Truck 5 T	128,409.00	Hour	
11	Water Pass/Theodolite	315,000.00	Day	
12	Compressor	62,016.00	Hour	
13	Eye Drill	12,000,000.00	set	
14	Crawler Crane	266,000.00	Hour	
15	Dump Truck	128,409.00	Hour	

Annex-5 Operation and Maintenance Cost of the Project

I. Calculation of Electric Power Required

NO	BUILDING	TYPES OF ELECTRICAL EQUIPMENT USED													TOTAL	OPERATION HOUR			
		TL 1x80 watt	TL 2x40 watt	TL 2x20 watt	SL Lamp	Stop Contact	AC 2 PK	AC 3/4 PK	AC 1/2 PK	frezer	Truck Scale	Garden Lamp	Road Lamp			WATT	06.00-18.00	18.00-22.00	22.00-06.00
		80 watt	80 watt	40 watt	18 watt	400 watt	1600 watt	500 watt	400 watt	10000 watt	2000 watt	100 watt	250 watt						
1	WHOLESALE MARKET CONSTRUCTION																		
	TYPE 1 (DIMENSIONS : 60 x 186 M)	683			44	120										103.432	35086	69832	69832
	TYPE 1 (DIMENSIONS : 60 x 186 M)	683			44	120										103.432	35086	69832	69832
	TYPE 2 (DIMENSIONS : 27 x 102 M)	150				75										42.000	17400	21000	21000
	TYPE 3 (DIMENSIONS : 24 x 54 M)	68				34										19.040	7888	9520	9520
	TYPE 4 (DIMENSIONS : 24 x 27 M)	33				17										9.440	3928	4680	4680
	TYPE 5 (DIMENSIONS : 24 x 12 M)	15				7										4.000	1640	2040	2040
2	ADMINISTRATION BUILDING			339	40	135		54		4						156.280	104942	18484	1428
3	STORAGE			45	45											2.610	522	2610	2610
4	COLD STORAGE		21			10				7						75.680	49418	51480	51480
5	WORKSHOP	168														15.440	4688	15440	15440
6	CANTEEN AND ACCOMODATION				56	22		11								15.308	8782	11018	7498
7	MOSQUE				38	2										1.484	148	365	365
8	SECURITY POST				8	2										944	749	864	704
9	TRUCK SCALE			20		2					1					1.600	1800	2880	2880
10	GARBAGE COLLECTION TEMPORARY			14	3	4										2.214	1563	1513	1414
11	DEEP WELLS PUMP															10.600	8480	8480	8480
12	CENTRIFUGAL WATER PUMP															7.200	5760	5760	5760
13	GENERATOR HOUSE				4	1										472	54	152	152
14	GARDEN AND ROAD LAMP										60	123				36.750	31350	35550	35550
TOTAL														607.926	319285	331500	310665		
TOTAL														607.93	319.285	331.500	310.665		
TOTAL														KW	KW	KW	KW		

Power demand for TA 760.00 kVA
 Power supply from PLN 865 kVA --> Main Power Supply

Operation hour 24 hours per day

LWBP 19 hours per day
 WBP 5 hours per day

Power used per month
 Used for LWBP 359,071.50 kWh
 Used for WBP 49,724.97 kWh
 Total kWh 408,796.47 kWh

Total of lighth hour 472.60 hours per month < 720 hours

Cost of electricity : B3/TM Category

Block I 59,669,964.00
 Block II 287,257,200.00

Total cost	346,927,164.00 per month
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- H 1: Percentage limits on hours of flame-saving national average x connected power (kVA).
- H 2: Electricity consumption (kwh) - H1.

II. Operation cost for Generator

- 1 Generator capacity = 750 kVA
2. Operation hours = 3.00 hours per day
- 3 Total day works = 30 days
- 4 Total hours per month = 90
- 5 Commonly use diesel fuel = 1,2 s/d 160 gr/Hp/hour assumption 100
6. Oil consumption in general = 1,2 s/d 1,5 gr/Hp/hour assumption 1,5
7. 1 Hp = 0.736 kW
- 8 Density of Diesel Fuel = 0.86
9. Oil Density = 0.995
- 10 Oil price = Rp. 27,000 / ltr
- 11 Diesel fuel price = Rp. 4,500 / ltr
- 12 Diesel fuel filter price = Rp. 95,000 / pcs
- 13 Oil filter price = Rp. 52,500 / pcs
- 14 Volume of Crankcase = 20 lt

$$\text{1. Fuel Cost} \\ \frac{600 \text{ kW}}{0.736} \times \frac{0.10}{0.86} \times 90 \times 4,500 = \text{Rp. } 38,391,052$$

$$\text{2. Oil Cost} \\ \frac{600 \text{ kW}}{0.736} \times \frac{0.002}{0.86} \times 90 \times 27,000 = \text{Rp. } 3,455,195$$

$$\text{3. Cost of Oil Change} \\ \frac{90}{200} \times 20 \times 27,000 = \text{Rp. } 243,000$$

$$\text{4. Cost of Diesel Fuel Change} \\ \frac{90}{400} \times 95,000 = \text{Rp. } 21,375$$

$$\text{5. Cost of Oil Filter Change} \\ \frac{90}{125} \times 52,500 = \text{Rp. } 37,800$$

$$\text{Total} = \text{Rp. } 42,148,421$$

Jadi biaya operasi setiap bulannya adalah Rp. 42,148,421

Selain biaya operasi tersebut diatas ada biaya rutin yang harus dikeluarkan setiap bulann

$$\text{6. Biaya perbaikan-perbaikan (pemeliharaan)} \\ 0.1 \times 42,148,421 = \text{Rp. } 4,214,842$$

Total cost 46,363,263 per month

III. Employment Cost

No.	Division	Personnel/Numbers	Qualification	Experience (year)	No.	Salary	Sub Total
a	General headquarters	General manager	S1	10	1	15,000,000	15,000,000
		Deputy manager (1)	S1	10	1	10,000,000	10,000,000
		Secretaries (2)	D3	3	2	2,000,000	4,000,000
b	General Administration	Chief (1),	S1	8	1	8,000,000	8,000,000
		Administrators (2),	D3	5	2	5,000,000	10,000,000
		Socialization/recruiting/training management (3)	D3	3	3	3,000,000	9,000,000
c	Financial/Accounting	Chief (1)	S1	8	1	8,000,000	8,000,000
		Accountants (2)	S1	5	2	5,000,000	10,000,000
		Tally/toll collection (6)	HIGH SCHOOL	3	6	1,500,000	9,000,000
d	Market information/ Statistics	Chief (1)	S1	8	1	8,000,000	8,000,000
		Market information (4)	D3	5	4	5,000,000	20,000,000
		Recording/Statistics (2)	HIGH SCHOOL	3	2	3,000,000	6,000,000
e	Food inspection	Chief (1)	S1	8	1	5,000,000	5,000,000
		Packaging/labeling/weighting inspectors (6)	D3	5	6	3,000,000	18,000,000
		Labo-technician (2)	S1	3	2	1,500,000	3,000,000
f	Facilities maintenance	Chief (1)	S1	8	1	8,000,000	8,000,000
		Electric engineer (1)	D3	5	1	3,000,000	3,000,000
		Mechanical engineer (1)	D3	5	1	3,000,000	3,000,000
		Special equipment engineer (1)	D3	5	1	3,000,000	3,000,000
g	Security	Chief (1)	HIGH SCHOOL	5	1	1,500,000	1,500,000
		Gate-guards (2 x 3 shifts)	HIGH SCHOOL	3	2	1,000,000	2,000,000
		Guards (8 x 3 shifts)	HIGH SCHOOL	3	8	1,000,000	8,000,000
h	Sanitary/Cleanliness	Chief (1)	HIGH SCHOOL	5	1	1,500,000	1,500,000
		Cleaning workers (14)	HIGH SCHOOL	2	14	1,000,000	14,000,000
Total							187,000,000

IV. Disposal Cost

Management of Garbage

Total volume of garbage from TA 51 ton per day
Total volume of garbage transfer to Landfil at Lubuk Kamal (Kalianda) 50 ton per day
Total volume of garbage which treatment to composting at TA 1 ton per day

1. Collecting by motorcycle

- a. Supply of motorcycle 25 units
- b. Capacity of box in motorcycle 1.5 m³ per unit
- c. Garbage density 0.22 ton/m³
- d. Total of cycletime per motorcycle 6 times per day
- e. Total volume of garbage collect 9 m³/day/unit
1.98 ton/day/unit
- f. Total volume can be handled 49.5 ton/day/unit

Operation cost of motorcycle

- a. Number of driver per unit 2 persons/unit
 - b. Fee for driver 800,000.00 Rp per month
Total Fee 1,600,000.00 Rp per month
 - c. Gasoline 2.5 lt/day
Gasoline price 4500 Rp/litre
Cost for gasoline 11,250.00 Rp/day
337,500.00 Rp/month
Maintenance cost 150,000.00 Rp/month
 - d. Total O&M cost for motorcycle 2,087,500.00 Rp/month/unit
 - e. Collecting cost per month 35,143.10 Rp/ton/unit
- Total O&M cost for motorcycle **52,187,500.00** Rp/month

2. O&M for Composting

Number of workers in treatment unit consist of :

- a. Chief of unit 1 person
- b. Workers 8 persons

Fee rate for workers per month

- c. Chief of unit 1,500,000.00 Rp/person
- d. Workers 800,000.00 Rp/person

Total fee rate per month **7,900,000.00** Rp per month

3. Fee for Landfill charge :

- a. Rates of garbage 15,000.00 per ton

Total Fee of Landfill charge **22,500,000.00** Rp per month

- 4. **Total O&M cost for garbage management** **82,587,500.00** Rp per month

V. Maintenance Cost

0.2% of direct construction cost without temporary works.

$115,447,451,000 * 0.002 = 230,894,000\text{Rp/ per year}$

$230,894,000 / 12 = \underline{19,207,000\text{Rp/ per month}}$

VI. Miscellaneous Cost

3.0% of Employment Costs.

$187,000,000 * 0.03 = \underline{5,610,000\text{Rp/ per month}}$