

CHAPTER V

CONCLUSION

5.1. RESULT

From this research the author obtained much good additional knowledge. Many new things that can be observed, studied and became a valuable experience, be it in science, as well as moral messages. There are several result of this research below:

- a. Based on the estimation of amount of debris flow in Gendol river about 1547899.16 m^3 .
- b. Based on the estimation of the capacity volume of sediment control structure (sabo) in Gendol river about 1165838.60 m^3 .
- c. There are 382060.56 m^3 sediment cannot accommodated by the sediment control structure (sabo) in Gendol river.
- d. In conclusion the sediment control structure in Gendol river is ineffective to mitigate the losses during the debris flow.
- e. There is six suggested sediment control structure that should be built to anticipate the losses during debris flow.
- f. After adding six sediment control stricture (sabo) capacity of sediment control structure become 1553110.18 m^3 .
- g. Furthermore, the sediment control structure along Gendol river is only accommodate 75% from the total debris flow 1547899.16 m^3 or

1165838.60 m³ only that mean there 25% or about 382060.56 m³ losses sediment flow and harmful for the downstream area.

- h. Sand mining is recommended in order to keep the structure in good condition so the structure can work properly
- i. Beside that construct another sediment control structure in Gendol river become the best solution to minimize the losses sediment.

In order to balancing the sediment and the structure, six Sediment control structure should be added on the Gendol river. The detail information about those six sediment control structure (sabo) see Table 4.6 Balanced Sediment.

- a. The first recommendation structure is located on Glagasari which dimension is 13.00 m height and 80.00 m width that can accommodate around 108488.20 m³ of sediment from debris flow. The second recommendation structure is located on Sindumartani dimension is 8.00 m height and 70.00 m width that can accommodate around 58416.72 m³ of sediment from debris flow.
- b. The next recommendation structure is located on Agromulyo with dimension 6.50 m height and 65.00 m width this structure can accommodate around 44073.33 m³ of sediment from debris flow.
- c. The next recommendation structure is located on Kepuharjo with dimension 13.00 m height and 70.00 m width this structure can accommodate around 94927.17 m³ of sediment from debris flow.
- d. The next a couple's structure is located on the downstream of GE-C0 (Tulung) separate on different elevation with the dimension about 6.0 m

height and 65.00 m width each structure can accommodate around 40683.07 m³ of sediment from debris flow.

For more information about location of proposed six sediment control structure shows on the figure below. See Figure 5.1 Suggestion of New Sediment Control Structure Location.

5.2. RECOMMENDATION

Based on this research the author would like to give some recommendation for related parties.

- a. There are many sediment control structure distributed into several rivers from Merapi. And every instance has their own data about the sabo. This make the information is scattered and incomplete. This make the monitoring harder, because the specification data and the other record are hold by other organization. Therefore, making a centralized data base, which every instance can access, will make the data easier to analyze and complete. This will also make research in sediment control structure become easier.
- b. Rehabilitate and repair the damaged building.
- c. Conducted investigation to assess the damages in the building based on existing procedure.
- d. Forming a community to give knowledge to the society about the sediment controlling structure and its benefits.

- e. With a good awareness of the society about the benefits of the sediment controlling structure, therefore the society will also protect the structure so it can always be operated in a good condition.



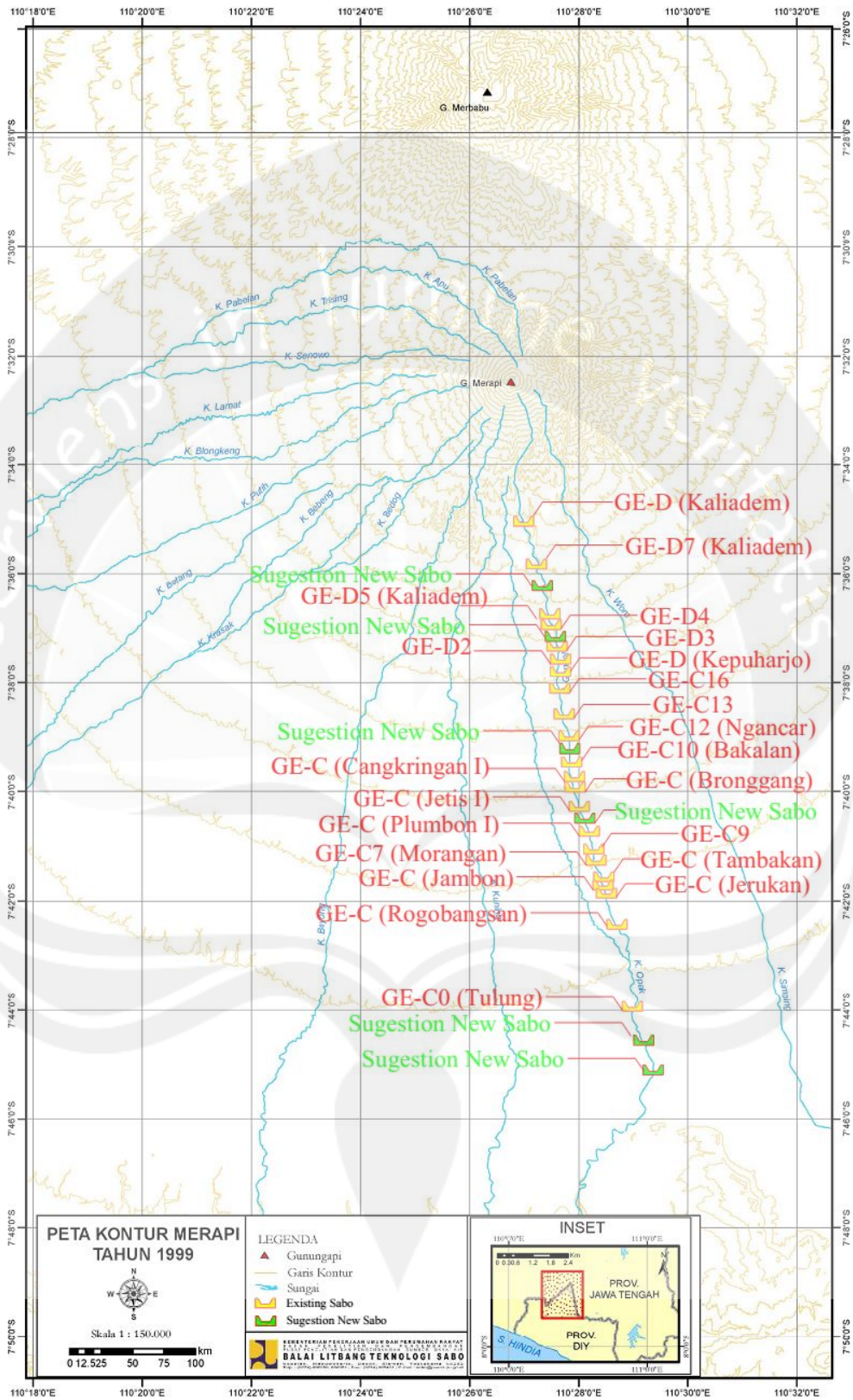


Figure 5.1 Suggestion of New Sediment Control Structure Location.



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ATTACHMENT

