

CHAPTER V

CONCLUSION AND RECOMMENDATION

This thesis is the first in attempting to review environmental geology from Changwat Buriram. Due to a lack of basic geological data, some analyses were limited in this study. However, most data available for the work were analysed in previous chapters, for example, plan for natural resources is formulated based on comprehensive information on resources potential as elaborated in Chapter IV.

This study provides a comprehensive, clear picture of the area and offers guidelines in considering possible alternative incremental development scenarios. This falls under particularly the categories of natural resources and human resources. In this chapter, the conclusion and recommendation are prepared. However, some other problems concerning socio-economic conditions in the area are still remain. This research is focused mainly on geological perspective, which can be summarised as follow.

5.1 Surface Water Supply

Natural water resources in Changwat Buriram are Moon River, Patia River, Lam Mat, Lam Nang Rong, and Lam Chi. However, not only surface water management needed, but also groundwater management is strongly recommended in order to get sustainable water supply to the people. Water supply in the area was analysed in previous chapter (Section 4.1.1). It will, then, supply potable water suitable for other domestic uses besides drinking and provide water for small

production industries such as silk production, small gardens, fruits trees, and livestock especially in the dry season.

5.2 Groundwater Supply

There are some recommendations in managing groundwater used in the area.

1. The vertical groundwater recharge, based on long term annual average for Changwat Buriram should be between 100-245 mm/year or between 9-23 % of the average annual rainfall.
2. An appropriate aquifer in Changwat Buriram is from shale, sandstone and siltstone in particular depth less than 50 m. This aquifer provides the maximum yield of groundwater about 15 m/hr. However, some aquifers such as massive sandstone with conglomerate and basalt, which located on the south of the study area, can be rarely yield water.
3. It is important to note that groundwater quality in the area is of high hardness content nearly all over the province and of high salt content in some places of Amphoe Muang Buriram, Khu Muang, and Satuk.

5.3 Waste Disposal Area

Waste in the area can presently be classified into three types, including human waste, domestic waste and agricultural waste. Industrial waste is, however, not yet recognised. However in this research, some suitable waste disposal areas have been

classified based on some specific geological data (Section 4.1.2). As a result, the waste disposal potential areas is located in amphoe Krasang.

5.4 Concluding remarks

Though, this study is the first in attempt to provide general geological information and tried to analyse them systematically in terms of environmental geology. More studies should be carried out using either the same or different approaches. Full monitoring of the pilot project will be needed to assess the validity of the plan. In particular, more research should be done to determine appropriate and innovative techniques suitable for rural development. However, there are some remarks that should be noted here.

1. Due to a few hydraulic data available in the study area, it is unlikely to indicate the exact hydraulic properties of the aquifer without some variation.
2. Water quality samplings, which taken from the observation wells, were the stagnant water. Thus, as a result, the interpretation might be misled because the water samples are not representative for the water quality analysis of the aquifer.
3. Water quality sampling, were collected from the observation wells, are not consistent and not systematic collection in sequential years.
4. Various kinds of maps presented in this study are aimed to demonstrate the entire area of Changwat Buriram, but in some specific circumstances, the more detail study should be scaled down in some areas.

5.5 Recommendation

1. In order to use the surface water, the reservoir is a basic requirement preparing for keeping water during the rainy season in every season of sequential years, so that water supply will be enough for the next dry season.

2. Because groundwater in the study area has low quality, then, the treatment of groundwater should be planned. However, the treatment will depend on each quality that could or could not treat as mentioned in Section 4.1.1.2.3. On the other hand, if groundwater is unable to treat due to the cost expense, then, in that area, surface water plan should be organised.

3. In case of waste disposal site selection, it is necessary to note here that the target area must be analysed based upon both physical environmental data and socio-economic conditions, in order to get the most suitable site. However, there are basically three different kinds of waste in the region, thus, the more detail study and planning should be carried out carefully and immediately.

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