

CHAPTER VI

CONCLUSION AND RECOMMENDATION

6.1 Conclusion

Fifty human hair samples collected from men of different age, occupation and residential area who entered into the priesthood on April 1, 1980 were used in this study. After removal of soap with demineralized water, the individual sample was divided into two portions, washed and unwashed samples. The washing step was performed by using the process recommended by the IAEA advisory groups. The determination of multi-trace elements, classified as bulk, essential, toxic and others, were done by Instrumental neutron activation analysis using the Thai Research Reactor-1/Modification-1 as the neutron source and thirty-one elements could be detected.

Most of the results from this study was not significantly different from the other reports surveying in this region except the elements As and Na in which indicated rather high internal concentration. No correlation between external contamination and residential area or occupation was clearly observed. Only one case indicated the Al contamination both internal and external.

6.2 Recommendation

- 6.2.1 The extensive study should be done in both male and female in order to establish the baseline concentration of trace elements in human hair.
- 6.2.2 The hair of persons who are **suffer from different** diseases must be analysed in order to study the relationship between the amount of trace elements and the diseases.
- 6.2.3 The investigation should be extended to biological materials, e.g. blood, urine, tissues etc. in which they may reflect the trace element more directly. The analysis of other food items, e.g. food, fish, vegetable **are** also necessary.
- 6.2.4 If the hair samples could not be collected from the whole head, they **must be collected by** using the procedure **recommended by IAEA advisory group (3)**. The summary of the recommended procedure is :
- **No. of samples from given population are more** or equal to 1000. The sampling is a statistically **random sampling**.
 - Length of each **hair strand is 10 cm long for** routine work and 5 cm long for short hair.
 - **From the head of each individual not less** than 100 strands should be collected, 5-10 strands from each 20-10 different 2-4 mm² spots

6.2.5 Since a very small amount of sample will be used for analysis, the homogeneity of sample is essential. In order to avoid external contamination, hair should be frozen with liquid nitrogen and ground with teflon mortar in closed pulverizer made from teflon.

