CONCLUSION

In the course of the present study, three main conclusions have been reached:

1) The total dissolved solute in the Ganges river exhibits a longitudinal as well as a seasonal trend;

2) The river water is supersaturated with the mineral Dolomite; in respect of Calcite and aragonite, along the course, the water gets increasingly saturated, and

3) the water composition in the aluminosilicate system plots in the Kaolinite region, but a longitudinal trend towards K-Mica region has been observed. Thus, it is significant, that on the basis of field investigations in the fresh water region, Handa (1972) suggests the presence of Kaolinite, and Mallik (1976) has observed Kaolinite and K-Mica in the mouth of the Hooghly river.

Raymahashay (1970) has mentioned the predominance of mechanical weathering over chemical weathering in the case of the Ganges river. However, an analysis of the carbonate equilibria, suggests that chemical weathering to a great extent is responsible for the practical role the river plays in the environment. For example, the increasing pH arising out of an increase in $\text{HCO}_3^-$ ion concentration all along the river, may help to precipitate some of the toxic heavy metals as hydroxides. Further, the usefulness of the river water is also dependent upon the saturation levels of carbonate minerals. It has been shown that the river is highly super-
saturated with respect to dolomite and no precipitation of this mineral has yet been reported. Therefore, the use of such waters in industries without modifications can lead to corrosion problems.

The analysis of silicate mineral equilibria is of academic interest. However, in the geological time scale, as has been discussed in the text, the weathering reactions assume importance.