4.5 SUMMARY

4.5.1 Polonium activity in soil

- In the Bharathapuzha river environs the highest activity of $^{210}\text{Po}$ was found at the Chimbickal region and the lowest activity was found at Malamalkavu region of the river bank. In the Periyar river environs the highest $^{210}\text{Po}$ activity was found at the Melkaladi region and lowest activity was found at the Kotaman region of the river bank. In the Kallada river the highest $^{210}\text{Po}$ activity was found at the Urukunnu region and lowest activity was found at Poundmukku region of the river bank.

- The mean value of $^{210}\text{Po}$ activity in the soil samples is high in the Periyar river environs compared with the mean value of activity in the Bharathapuzha and Kallada river environs.

- A good correlation was observed between $^{210}\text{Po}$ activity and organic matter content of the soil samples.

4.5.2 Polonium activity in sediments

- In the Bharathapuzha river environs the highest activity of $^{210}\text{Po}$ was found at the Chimbickal region and the lowest activity was
found at Kudallur region of the river. In the Periyar river environs the highest $^{210}$Po activity was found at the Nileeswaram region and lowest activity was found at the Kotaman region of the river. In the Kallada river the highest $^{210}$Po activity was found at the Urukunnu region and lowest activity was found at Poundmukku region of the river.

- The mean value of $^{210}$Po activity in the sediment samples is high in the Periyar river environs compared with the mean value of activity in the Bharathapuzha and Kallada river environs.

- A good correlation was observed between $^{210}$Po activity and organic matter content of the sediment samples.

- In the Bharathapuzha river environs the $^{210}$Po activity of soil samples were found to be higher than the $^{210}$Po activity in sediments. This is due to the high organic matter content in soil samples of the environ. In the Periyar and Kallada river environs the $^{210}$Po activity of sediment samples were found to be higher than the $^{210}$Po activity in soil samples. This is due to
the higher percentage of organic matter content in the sediments than in soil samples.

- The highest activity of $^{210}$Po both in soil and sediment was observed in Periyar river compared to Bharathapuzha and Kallada rivers.

- Organic matter plays an important role in the accumulation of $^{210}$Po in the riverine environs.