CHAPTER I
INTRODUCTION

1 INTRODUCTION

1.1 Introduction

The Precambrian basement complex of Yemen represents the southern extension of the Arabian Shield. It covers about 105,000 Km² of the total country area. It is exposed as a broad belt in the eastern part of the country, as well as small erosion remnants in the western part along the Red Sea coast (Fig. 1.1). This belt is dominated by alternating, 10 to 30 km-wide, migmatized gneisses and metavolcanics strips, bearing NE-SW to N-S. Al-Bayda Governorate represents a part of the southern basement block. It lies at 257 km SE of Sana'a city (latitudes 13° 56` and 14° 30` N and longitudes 44° 50` and 55° 35` E), and is bounded by Marib province to the north, Abyan and Al Dali province to the south, SE and SW, Shabwah province to the NE and Dhamar province to the W (Fig. 1.2).

The present study addresses the geologic context and structural evolution and of an important part of the basement complex of Yemen at the Al-Bayda district. The study aims at construction of a detailed geologic map, based on field observations, aerial photographs and Landsat (ETM+) images of appropriate scales. In this approach, investigations including petrography, ore microscopy, structural synthesis and geochemistry of the country rocks are carried out.

1.2 Methodology

In order to achieve the envisaged goals, the following were carried out:

- Field work was accomplished during a number of field campaigns, and the geological map (1:40,000) was compiled from field data, aerial photographs and topographic sheets at