Appendix: XII

Eritrea's Agro-Ecological Zones

The FAO Agricultural Sector Review Mission identified six main agro-ecological zones in Eritrea they are as follows:

The Central Highland Zone [CHZ]:

Over 1500 mm in altitude; ranging from less than 400 mm to more than 700 mm of annual rainfall; and enjoying for the most part a warm to cool semiarid climate. Potential evapotranspiration ranges from 1300 to 1800 mm. This zone comprises three sub-zone that have many common features, in particular the major corps, but one distinguishable by differences in attitude, annual precipitation, relief, soils, population pressure and degree of environmental degradation. The sub- Zones are: *Highland [H]* over 2000 mm attitude, 500 to 600 mm of rain with very high population pressure except in the limited high elevation areas of the north; *Southern Midland [SM]* 1500 to 2000 m. with generally lower population pressure and favorable rainfall [greater than 700 mm in extra south], and *Northern Midland [NM]* 1500 to 2000 m. but arid with less than 400 mm of rainfall and consequently very low population pressures.

The Western Escarpment Zone [WEZ]:

600 to 1500 m, with a warm to hot semi arid climate. Its soils and relief are determined by the physiography and geology of the central highlands, but in terms of climate, cropping and population pressure if has much in common with the south western lowlands with which it joins; a transition zone.

The South Western Lowland Zone [SWLZ]:

600 to 750 m, with a hot semi-arid climate. Rainfall in excess of 400 mm. Soils quite different from those of the high land and transition zones; include large areas of verticals that require different management from those of the central highlands. Topography flat and population pressure [very] low.

The Unique Green-Belt Zone [GBZ]:

On the eastern escarpment of the *CHZ*; 750 to over 2000 m, rainfall from 700 mm to more than 1000 mm. Encompasses numerous micro-ecological zones that one determined individually by the inter-relationship of attitude, rainfall, aspect, exposure and soils at different sites. Microclimates range from sub-harmed temperate to humid tropical. Relief precipitous and requiring comprehensive terracing. It differs from all other zone in being able to support permanent crops such as coffee without irrigation.

The Coastal Plains Zone [CPZ]:

From below sea level to 600 m, a hot deserted climate with less than 200 mm of rainfall. Potential evapotranspiration in excess off 2000 mm. Crop production impossible without irrigation; poor pasture resources; a zone of very extensive pastoralism.

The North-Western Lower land Zone [NWLZ]:

400 to 1500 m, a hot arid climate with at most 300 mm of rainfall, and in the extreme NW below 200 mm. Evapotranspiration 1500 to 2000 mm. Sustainable crop production not possible without irrigation, but some niche cropping is feasible. Poor to moderate pasture resources.

Out of these six zones, only the first four have sufficient rainfall to support sustainable systems of rain - fed crop production and all would benefit from supplemental irrigation; in the other two, irrigation is mandatory.

Sources: Derived from Data Provided by the Bank of Eritrea, "Unpublished Documents", 2001; The World Bank, "Eritrea: Options and Strategies for Growth", 1994; and IMF, "Eritrea: Selected Issues", 1998 –2000.