Economics 172: Issues in African Economic Development
Problem Set 3 (Due in class Thursday April 8, 2004)

1. The Political Economy of Agricultural Marketing Boards – 5 points

Why were agricultural marketing boards established in Sub-Saharan Africa during the colonial period? At what level were producer prices generally set relative to world market prices? Which groups in society tended to benefit or lose from these agricultural policies during the post-colonial period, and why? Please discuss in at most two (2) double-spaced pages.

2. A Model of Settlement, Income and Slavery – 5 points

Consider a community of individuals deciding where to live. Imagine that the key decision for them is how far to live from the coast, where distance from the coast is called $d \in [0, 1]$. Income, Y, is a decreasing function of d, $Y(d)$. There is a positive probability individuals will be captured and sold into slavery, and this probability, P, is also a decreasing function of distance from the coast, $P(d)$. If an individual is captured, her/his disutility is $s < 0$. Individual utility is thus $U(d) = Y(d) – P(d)*s$.

(a) Briefly describe two reasons why income might have declined with distance to the coast in Sub-Saharan Africa during the pre-colonial period.

(b) Imagine for simplicity that Y and P take the following functional forms: $Y(d) = y(1 – d)$ and $P(d) = 1 – d$. At what distance will the group decide to locate? How does the optimal distance d^* depend on the relative magnitudes of y and s?

(c) Imagine that the income function is the same, but the probability of capture is lower, such that $P(d) = a(1 – d)$, where $a \in (0, 1)$. Now at what distance will the community decide to locate? How does this depend on y, s, and a?

(d) What does this last finding suggest about the likely impact of the external slave trade on residential patterns and income levels in Africa historically? Explain the intuition.