Sonia Zarrillo, 2012, *Human Adaptation, Food Production, and Cultural Interaction during the Formative Period in Highland Ecuador* , A thesis submitted to the Faculty of Graduate Studies in partial fulfilment of the requirements for the degree of doctor of philosophy, Department of archaeology, Calgary/Alberta

Abstract:

This dissertation focuses on plant food production, human adaptation, and cultural interaction in the highlands of Ecuador during the Formative Period. I conducted starch granule analysis of ceramic charred cooking and stone tool residues from some of the earliest Formative Period sites in the highlands, and one site from the eastern Andean slopes, to develop a regional synthesis of the timing and nature of highland plant food production. The main hypothesis tested is whether the stimulus to a Formative lifeway in the highlands diffused from coastal Ecuador. Sites investigated include La Chimba, Tajamar, Cerro Narrío, Chaullabamba, La Vega, Trapichillo, and Santa Ana-La Florida (SALF). I also integrate data from previous botanical analyses at other sites, especially Cotocollao.

The analyses show that Andean domesticated crops, such as oca, potato, lupines (chocho/tarwi) and quinoa, as well as maize and beans, are associated with the highland sites located at, and to the north of, Chaullabamba (La Chimba, Tajamar, and Cerro Narrío). By employing site catchment analysis, I contend that a highland, “vertical compact”, agricultural system was being practiced at these sites by at least the terminal Early Formative period, and perhaps much earlier based on proxy (pollen) evidence and aspects of the plants’ nutritional profiles, which suggest long-standing familiarity with the crops. By integrating the latest information available on the crops’ origins, I argue that cultural interaction was perhaps principally occurring through the Inter-Andean corridor along a north-south axis with other highland groups.

In contrast, the far southern highland sites (La Vega and Trapichillo), as well as SALF, show crops suited to a lowland tropical agricultural system, including manioc, sweet potato, Dioscorea (yam), as well as maize and beans and, possibly, cacao. The results from SALF date to almost the beginning of the Early Formative Period, showing that Coastal Ecuador was not the only “hotspot” for Early Formative Period societies. Cultural interaction in the far southern highlands shows an east-west axis of orientation. Groups in the highlands, eastern lowlands, and coast were involved in multiple interaction spheres. Highland agriculture and socio-political complexity developed insitu, and not from unidirectional diffusion from coastal Ecuador.