

Am really grateful for the financial support facilitated by the IAS that partly offset my Ph.D. project expenses. The fieldwork was carried out between 1st April – 14th June 2005 and the following results were obtained:

The distinctive depositional architecture and evolution of the Mombasa platform is interpreted as having been controlled predominantly by regional tectonics, environmental and oceanographic factors as well as sedimentary fabrics (related to rather oblique extensional faulting in a strike-slip setting). A 3D modelling of the platform reveals some architectural elements of shoal-moulds that gradually evolved into the platform margin. To a good measure, the *insitu* precipitation of calcite and aragonite on the sea floor was a major platform building process in deposition of this platform–margin. Absolute dating of samples from some exceptionally preserved outcrops indicates that this platform was laid during the early carboniferous unlike previously reported. In addition the best-preserved sections were chosen to document the abundance of *in situ* precipitation calcite and aragonite. One or more sections, with the highest proportion of continuous exposure and textural preservation were identified for each facies association. These sections were remeasured and detailed logs of the proportion of the rock containing preserved crystallographic textures or sedimentary features implying *insitu* precipitation of these polymorphs recorded for each bed greater than 10cm thick. Besides, the proportion of clastic carbonate textures, the abundance of shale and the extent of chert replacement were recorded. More often than not, a significant remainder of the rock consists of recrystallized carbonate of unrecognizable origin or depositional textures of ambiguous origin. This estimates of recognized carbonate textures represent minimum proportions since part of the recrystallized or ambiguous carbonate could have precipitated insites or originally been comprised of grains. It's often impossible to identify the origin of all the compounds of the rock, and the sum of all the proportion that precipitated in place and that comprising the clastic carbonate rarely exceeds 45%.

Aragonite pseudomorphs are abundant in open-marine depositional environment, less abundant in restricted facies and absent from sediments deposited below wave base. Calcite encrustations are volumetrically abundant in all intertidal to subtidal depositional environments except for deep slope and basinal deposits. A critical analysis of the depositional facies and associations depicts a transition from this early carboniferous platform margin to a basin.

The extensive microbial laminates in the basin reflect a supper saturated environment with poor circulation and oxygen – deficient and eutrophic bottom waters. Such an environment would have favoured blooming and early calcification of cyanobacterial colonies, but would have excluded normal marine benthic organisms through the serious environmental stress.

Nonetheless, there is still overwhelming evidence that depositional sequences were formed by fluctuations in relative sea level. It is likely that syn-sedimentary tectonic activity made an important contribution to the changes, although superimposed ecstatic signal cannot be ruled out.

The spending during the whole exercise was as follows:

200 Euro for fueling and servicing a University junk landrover that I used during the fieldwork.

100Euro for sustenance and subsistence in the field

240 Euro for purchasing satellite imagery covering the study area

300Euro for four ¹⁴C dates

60 Euro for petrographic slides analysis

80 Euro for expendable supplies (preparation of report)

TOTAL: 980 EURO