962-60-1310 **D. Kannan*** (kannan@math.uga.edu), University of Georgia, Mathematics Department, Athens, GA 30602-7403. *Stochastic Difference Equations.*

Our interest is centered on the stochastic difference equations of the forms

$$Y_{k+1} = M(Y_k, k+1), \text{and}$$

$$Y_{k+1} = Y_k = M(Y_k, k+1) - M(Y_k, k),$$

where $k \to M(\cdot, k)$ is a (semi-)martingale. We first develope some regularity properties of $x \to M(x, k)$. We then look at functional limit theorems and stability analysis of the solution process Y_n (Received October 03, 2000)