

# APPENDIX B

## The proposed general criterion for two dry and wet seasons

$$y_2 + p_1 = e^{-x_1} \quad [B1] \quad \longrightarrow \quad p_1 = e^{-x_1} - e^{-(x_2+n_2)} \quad [B5]$$

$$y_1 = e^{-(x_1+n_1)} \quad [B2] \quad \longrightarrow \quad p_2 = e^{-x_2} - e^{-(x_1+n_1)} \quad [B6]$$

$$y_1 + p_2 = e^{-x_2} \quad [B3] \quad \longrightarrow \quad e^{-x_1} - e^{-n_2} \cdot e^{-x_2} = p_1 \quad [B7]$$

$$y_2 = e^{-(x_2+n_2)} \quad [B4] \quad \longrightarrow \quad -e^{-n_1} \cdot e^{-x_1} + e^{-x_2} = p_2 \quad [B8]$$

$$Dp = \begin{vmatrix} 1 & -e^{-n_2} \\ -e^{-n_1} & 1 \end{vmatrix} = 1 - e^{-(n_1+n_2)} \quad [B9]$$

$$D_1 = \begin{vmatrix} p_1 & -e^{-n_2} \\ p_2 & 1 \end{vmatrix} = p_1 + p_2 \cdot e^{-n_2} \quad [B10]$$

$$D_2 = \begin{vmatrix} 1 & p_1 \\ -e^{-n_1} & p_2 \end{vmatrix} = p_2 + p_1 \cdot e^{-n_1} \quad [B11]$$

$$e^{-x_1} = \frac{D_1}{Dp} = \frac{p_1 + p_2 \cdot e^{-n_2}}{1 - e^{-(n_1+n_2)}} \quad [B12]$$

$$e^{-x_2} = \frac{D_2}{Dp} = \frac{p_2 + p_1 \cdot e^{-n_1}}{1 - e^{-(n_1+n_2)}} \quad [B13]$$

$$x_1 = -\ln \left[ \frac{p_1 + p_2 \cdot e^{-n_2}}{1 - e^{-(n_1+n_2)}} \right] \quad \text{Eq. 22} \quad [B14]$$