$$\tilde{\mu}_j = \frac{\mu_j}{r_1}, \quad \tilde{e}_i = \frac{e_i}{r_1}, \quad \delta_i = \frac{a_i}{r_1}, \quad r = \frac{r_2}{r_1}, \quad \sigma_H = \left(\frac{\pi_V}{r_1}\right), \quad \alpha_1 = \left(\frac{\tilde{\pi}_h K_1}{r_1 H_0}\right),$$

$$\tilde{\sigma}_2 = \left(\frac{\tilde{\pi}_V}{r_1}\right)\left(\frac{A_2}{(1-\eta_1)\,\omega_1 A_1 + A_2}\right), \qquad \alpha_2 = \left(\frac{\pi_h K_2}{r_1\,(1-\eta_1)\,\omega_1 A_1 + r_1 A_2}\right),$$

$$\tilde{\sigma}_1 = \left(\frac{\tilde{\pi}_V}{r_1}\right)\left(\frac{(1-\eta_1)\,\omega_1 A_1}{(1-\eta_1)\,\omega_1 A_1 + A_2}\right), \qquad \sigma_{11} = \left(\frac{\tilde{\pi}_V \eta_1 \omega_1}{r_1\,(1-\omega_1) + \eta_1 \omega_1 r_1}\right),$$

$$\sigma_{12} = \left(\frac{\tilde{\pi}_V \omega_2\,(1-\omega_1)}{r_1\,(1-\omega_1) + \eta_1 \omega_1 r_1}\right), \qquad \tilde{\alpha}_{11} = \left(\frac{\pi_h \eta_1 \omega_1}{(1-\omega_1)\,A_1 + \eta_1 \omega_1 A_1}\right)\left(\frac{K_1}{r_1}\right),$$

$$\tilde{\alpha}_{12} = \left(\frac{\pi_h\,(1-\omega_1)\,\omega_2}{(1-\omega_1)\,A_1 + \eta_1 \omega_1 A_1}\right)\left(\frac{K_1}{r_1}\right), \qquad \tilde{\alpha}_2 = \left(\frac{\pi_h\,(1-\eta_1)\,\omega_1}{(1-\eta_1)\,\omega_1 A_1 + A_2}\right)\left(\frac{K_2}{r_1}\right)$$

The ODEs is,

$$\begin{aligned}
\frac{dx_1}{dt} &= z_1 \alpha_1 x_3\,(1-x_1) - \tilde{\mu}_H x_1 \\
\frac{dx_2}{dt} &= \left(\left(\tilde{z}_1 \tilde{\alpha}_{11} + \tilde{z}_2 \tilde{\alpha}_{12}\right) x_3 + \tilde{z}_1 \tilde{\alpha}_2 x_6\right)(1-x_2) - \tilde{\mu}_1 x_2 \\
\frac{dx_3}{dt} &= \left(z_1 \sigma_H x_1 + \left(\tilde{z}_1 \sigma_{11} + \tilde{z}_2 \sigma_{12}\right) x_2\right)(x_4 - x_3) - \left(\tilde{e}_1 + x_4\right) x_3 \\
\frac{dx_4}{dt} &= x_4\,(1-x_4) \\
\frac{dx_5}{dt} &= \tilde{z}_2 \alpha_2 x_6\,(1-x_5) - \tilde{\mu}_2 x_5 \\
\frac{dx_6}{dt} &= \left(\tilde{z}_1 \tilde{\sigma}_1 x_2 + \tilde{z}_2 \tilde{\sigma}_2 x_5\right)(x_7 - x_6) - \left(\tilde{e}_2 + r x_7\right) x_6 \\
\frac{dx_7}{dt} &= r x_7\,(1-x_7)
\end{aligned} \tag{1}$$

We define the random variables,

$$\begin{aligned}
z_{s1} dt &= z_1 dt + \beta_1 dW_1(t) \\
\tilde{z}_{s1} dt &= \tilde{z}_1 dt + \beta_2 dW_2(t) \\
\tilde{z}_{s2} dt &= \tilde{z}_2 dt + +\beta_3 dW_3(t)
\end{aligned}$$

Now, we replace $z_1 dt$, $\tilde{z}_1 dt$ and $\tilde{z}_2$ in system 2 by $z_{s1} dt$, $\tilde{z}_{s1} dt$ and $\tilde{z}_{s2} dt$, respectively. Thus, we obtain the follow SDEs,

$$
\begin{aligned}
dx_1 &= \left[z_1\alpha_1 x_3\left(1-x_1\right)-\tilde{\mu}_H x_1\right]dt+\beta_1\alpha_1 x_3\left(1-x_1\right)dW_1(t)\\
dx_2 &= \left[\left(\left(\tilde{z}_1\tilde{\alpha}_{11}+\tilde{z}_2\tilde{\alpha}_{12}\right)x_3+\tilde{z}_1\tilde{\alpha}_2 x_6\right)\left(1-x_2\right)-\tilde{\mu}_1 x_2\right]dt+\\
&\quad \left[\left(\beta_2\tilde{\alpha}_{11}dW_2(t)+\beta_3\tilde{\alpha}_{12}dW_3(t)\right)x_3+\beta_2\tilde{\alpha}_2 x_6 dW_2(t)\right]\left(1-x_2\right)\\
dx_3 &= \left[\left(z_1\sigma_H x_1+\left(\tilde{z}_1\sigma_{11}+\tilde{z}_2\sigma_{12}\right)x_2\right)\left(x_4-x_3\right)-\left(\tilde{e}_1+x_4\right)x_3\right]dt+\\
&\quad \left[\beta_1\sigma_H x_1 dW_1(t)+\left(\beta_2\sigma_{11}dW_2(t)+\beta_3\sigma_{12}dW_3(t)\right)x_2\right]\left(x_4-x_3\right)\\
dx_4 &= x_4\left(1-x_4\right)dt\\
dx_5 &= \left[\tilde{z}_2\alpha_2 x_6\left(1-x_5\right)-\tilde{\mu}_2 x_5\right]dt+\beta_3\alpha_2 x_6\left(1-x_5\right)dW_3(t)\\
dx_6 &= \left[\left(\tilde{z}_1\tilde{\sigma}_1 x_2+\tilde{z}_2\tilde{\sigma}_2 x_5\right)\left(x_7-x_6\right)-\left(\tilde{e}_2+rx_7\right)x_6\right]dt+\\
&\quad \left(\beta_2\tilde{\sigma}_1 x_2 dW_2(t)+\beta_3\tilde{\sigma}_2 x_5 dW_3(t)\right)\left(x_7-x_6\right)\\
dx_7 &= rx_7\left(1-x_7\right)dt
\end{aligned}
\tag{2}
$$