Let B_1, B_2, B_3 be the $1^{st}, 2^{nd}$ & 3^{rd} bags choosen

and

A : the two balls drawn are white and red

we know,

$$P(B_1) = P(B_2) = P(B_3) = \frac{1}{3}$$

Bags	Red	White	green
B_1	2	1	3
B_2	3	2	1
B_3	1	3	2

Probability of drawing 'one white' and 'one red' ~~red~~ ball from bag 1, (first bag)

$$P(A|B_1) = P$$

$$= \frac{{}^1C_1 \times {}^2C_1}{{}^6C_2} = \frac{2}{15}$$

Similarly

$$P(A|B_2) = \frac{{}^2C_1 \times {}^3C_1}{{}^6C_2} = \frac{2}{5}$$

$$P(A|B_3) = \frac{{}^3C_1 \times {}^1C_1}{{}^6C_2} = \frac{1}{5}.$$

By Baye's theorem, we have

$$P(B_2|A) = \frac{P(B_2) \cdot P(A|B_2)}{P(B_1)P(A|B_1) + P(B_2)P(A|B_2) + P(B_3) \cdot P(A|B_3)}$$

$$= \frac{1/3 \times 2/5}{(1/3 \times 2/15) + (1/3 \times 2/5) + (1/3 \times 1/5)}$$

$$\boxed{P(B_2|A) = \frac{6}{11}.}$$