

INFEWS Food Model Documentation

Sriram Sankaranarayanan

1 Crop Producer's problem

$$\text{Maximize} \quad \sum_{y,f} df_y (\varpi_{ynf} Q_{ynf} - \mathcal{C}_{ynf} A_{ynf}) \quad (1.1)$$

subject to

$$a \leq b \quad (1.2)$$

| Symbol | Type | Definition |
|---------------------|-----------|---------------------------------|
| f | Set | Food crops |
| a | Set | Animal products |
| y | Set | Years |
| m | Set | Months |
| n | Set | Nodes |
| ϖ_{ynf} | Variable | Price of foodcrop |
| Q_{ynf} | Variable | Quantity of foodcrop |
| \mathcal{Y}_{ynf} | Parameter | Yield per unit area of foodcrop |
| \mathcal{C}_{ynf} | Parameter | Cost per unit area of foodcrop |
| A_{ynf} | Variable | Area allotted for foodcrop |

Table 1: Symbols and Explanation