Soil water (a)

On and off-site influence
- *upstream abstraction*
- *rainfall occurrence*

Farmer negotiations
- *institutional arrangements*
- *infrastructure maintenance*

Flooding system
- *type of water diversion*
- *sediment load*

Other factors
- *additional rainfall*
- *evaporation*
- *soil water holding capacity*

Amount of flood reaching the plot

Water supply adequacy

Available soil water

Cropping system (b)

Crop and cropping systems
- *crop type*
- *crop variety*
- *intercropping*

Effectiveness of cropping options

Other agricultural practices
- *planting date*
- *previous crop*

Management (c)

Soil fertility management
- *soil amendments*
- *rich sediment addition*

Soil fertility

Socio-economic context
- *wealth status*
- *mutual assistance*
- *access to inputs*

Farmer profile
- *skills of the farmer*
- *effectiveness of crop protection*
- *available labour force*

Agricultural management efficiency

Previous biotic stress
- *residual effect of pests & diseases*
- *residual effect of weeds*

Current biotic stress
- *pests & diseases*
- *weeds*

Farming constraints (FC)

Bayesian Networks

Monte Carlo model

Crop growth (d)

Yield potential
maximum yield potential without farming constraints

Attainable yield
achievable fraction of yield potential under ideal conditions

Exploitable yield gap loss due to farming constraints
yield improvement opportunity loss due to avoidable farming constraints

Exploitable yield gap
yield improvement opportunities for a farmer

Average actual yield
historical and realistic yield actually achieved by farmers

Biomass expansion factor
account for biomass accumulation over time

Note:
- *This graph provides a simplified overview of the generic model. Nodes represent groupings of similar aspects.*
- *Bullet lists only provide examples of variables that can be expected in the model described in fine detail in the technical material.*
- *Bubble shapes are Bayesian networks formed by variables (rectangular shapes) pointing to them.*