Risk Object: New Risk Object [New Risk Object_11]

Model: BN_Model_Energy_170613.cmp

Generated: 4/5/18 2:16 AM

VOI Configuration	
Decision Node	Farmers have trees [M0]
Uncertainty Nodes	Ability to hire labor [Ability_to_hire_labor] Ability to irrigate [M0_1_1_3_1_1_2] Annual mean temperatures [Annual_mean_temperatures] Biophysical suitability [M0_1_1_3] Effect of climatic constraints [M0_1_1_4] Effect of soil fertility constraints [Effect_of_soil_fertility_constraints] Energy content fruit (kcal_kg) [Energy_content_fruit__kcal_kg_] Energy from fruits per person (kcal_yr) [Energy_from_fruits_per_person__kcal_yr_] Energy from off_farm (kcal yr) [Energy_from_off_farm__kcal_yr_] Energy from on farm (kcal_yr) [Energy_from_on_farm__kcal_yr_] Energy intake (kcal_yr)) [Energy_intake__kcal_yr_] Energy needs per person (kcal yr) [Energy_needs_per_person__kcal_yr_] Farm income [Farm_income] Food preferences [Food_preferences] Fruit available per person (kg_yr) [Fruit_available_per_person__kg_yr_] Fruit consumed per person (kg_yr) [Fruit_consumed_per_person__kg_yr_] Fruit consumption preference per person (kg_yr) [Fruit_consumption_preference_per_person__kg_yr_] Fruit produced per person (kg_yr) [Fruit_produced_per_person__kg_yr_] Fruit production area (%) [Fruit_production_area____] Fruit production area per person (ha) [Fruit_production_area_per_person__ha_] Fruit species [M0_1_1_3_1_1_1] Fruit yield (kg_ha_yr) [Fruit_yield__kg_ha_yr_] Fruit yield potential (kg_ha_yr) [Fruit_yield_potential__kg_ha_yr_] Genetic yield potential (kg_ha_yr) [Genetic_yield_potential__kg_ha_yr_] Germplasm quality [M0_1_1_2_1] Handling, storage and processing quality (PHL) [Handling__storage_and_processing_quality__PHL_] Household composition (nutrient demand groups) [Household_composition__nutrient_demand_groups_] Household labor availability [Household_labor_availability] Household size [Household_size] Knowledge and skills [Knowledge_and_skills] Labor constraints to irrigation [Labor_constraints_to_irrigation] Labor constraints to pest and disease management [Labor_constraints_to_pest_and_disease_management] Labor constraints to postharvest and storage [Labor_constraints_to_postharvest_and_storage] Labor constraints to Soil Fertility Management (SFM) [Labor_constraints_to_Soil_Fertility_Management__SFM_] Losses due to biophysical unsuitability (%) [Losses_due_to_biophysical_unsuitability____] Losses due to pests and diseases (%) [Losses_due_to_pests_and_diseases____] Natural soil fertility [M0_1_1_1_1_1_4] Non_fruit consumption potential per person (kg_yr) [Non_fruit_consumption_potential_per_person__kg_yr_] Non_fruit production area per person (ha) [Non_fruit_production_area_per_person__ha_] Non_fruit yield (kg_ha_yr) [Non_fruit_yield__kg_ha_yr_] Non_fruit yield per person (kg_yr) [Non_fruit_yield_per_person__kg_yr_] Off farm product consumed per person (kg_yr) [Off_farm_product_consumed_per_person__kg_yr_] On farm product consumed per person (kg_yr) [On_farm_product_consumed_per_person__kg_yr_] Other off_farm Energy content (kcal_kg) [Other_off_farm_Energy_content__kcal_kg_] Other on_farm Energy content (kcal kg) [Other_on_farm_Energy_content__kcal_kg_] Pest & disease management effectiveness [Pest___disease_management_effectiveness] Pest & disease management inputs [Pest___disease_management_inputs] Pest and disease pressure [Pest_and_disease_pressure] PHL (%) [PHL_____] Rainfall adequacy [Rainfall_adequacy] Rainfall regime [Rainfall_regime] SFM quality [SFM_quality] Soil fertility [M0_1_1_4_1] Soil fertility needs [M0_1_1_3_1_1_1_2] Temperature suitability [Temperature_suitability] Total production area (ha) [Total_production_area__ha_] Total production area per person (ha) [Total_production_area_per_person__ha_] Water availability [Water_availability] Water needs [Water_needs] Water sufficiency [Water_sufficiency]
Utility Node	Energy gap per person (kcal_yr) [Energy_gap_per_person__kcal_yr_]
Optimisation Type	maximum
Scenario	Scenario 1

Total build time: 31183497 ms

Expected Maximum Value (Utility|Decision) – EMV

Expected Value Given Perfect Information – EV|PI

Expected Value of (Partially) Perfect Information – EV(P)PI

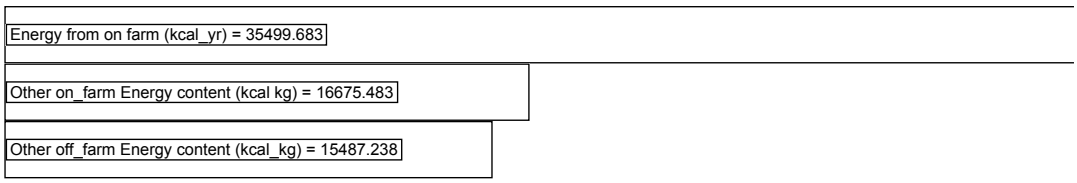
Click on the name of an Uncertainty node to see detailed utility table showing utility values per each combination of Uncertainty and Decision states.

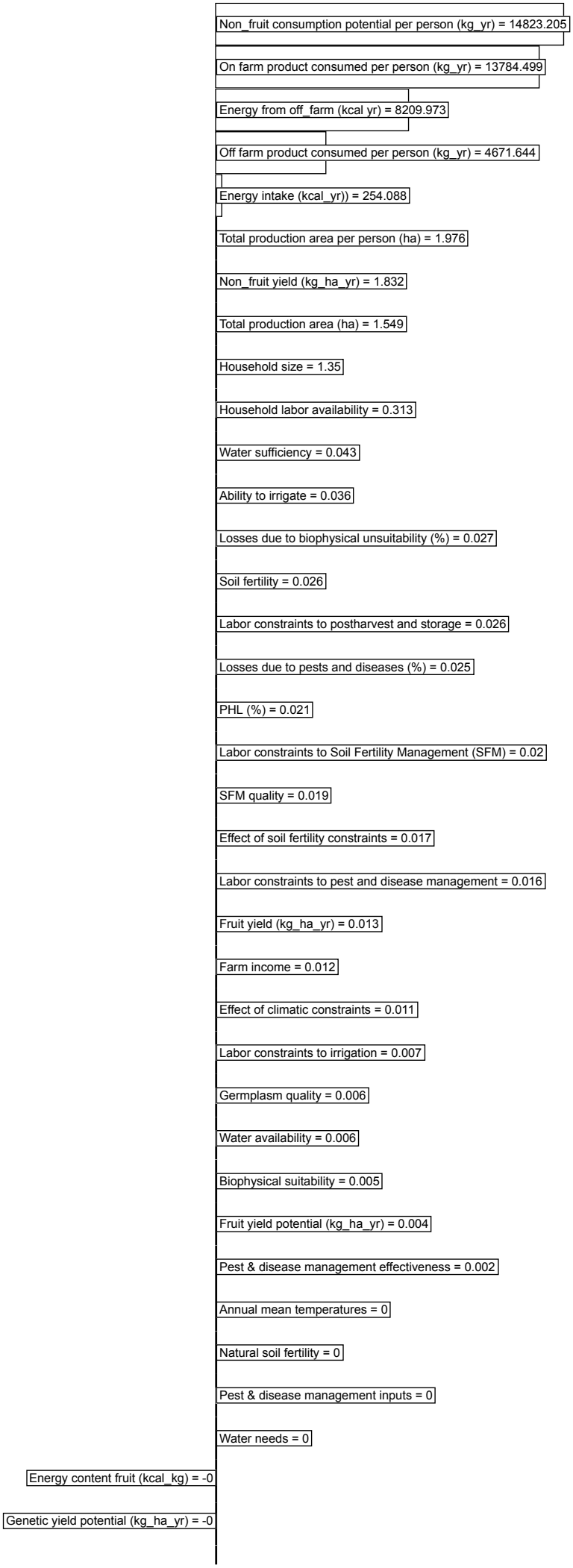
EMV		**409639.856**
Ability to hire labor [Ability_to_hire_labor]	**EV|PI**	409639.85
	EV(P)PI	-0.006
Ability to irrigate [M0_1_1_3_1_1_2]	**EV|PI**	409639.892
	EV(P)PI	0.036
Annual mean temperatures [Annual_mean_temperatures]	**EV|PI**	409639.856
	EV(P)PI	0
Biophysical suitability [M0_1_1_3]	**EV|PI**	409639.861
	EV(P)PI	0.005
Effect of climatic constraints [M0_1_1_4]	**EV|PI**	409639.867

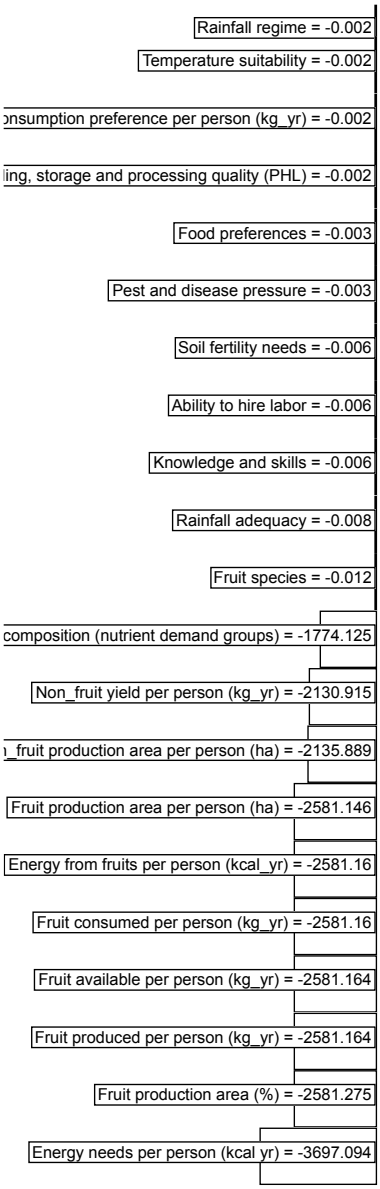
	EV(P)PI	0.011
Effect of soil fertility constraints [Effect_of_soil_fertility_constraints]	EV|PI	409639.873
	EV(P)PI	0.017
Energy content fruit (kcal_kg) [Energy_content_fruit__kcal_kg_]	EV|PI	409639.856
	EV(P)PI	-0
Energy from fruits per person (kcal_yr) [Energy_from_fruits_per_person__kcal_yr_]	EV|PI	407058.696
	EV(P)PI	-2581.16
Energy from off_farm (kcal yr) [Energy_from_off_farm__kcal_yr_]	EV|PI	417849.829
	EV(P)PI	8209.973
Energy from on farm (kcal_yr) [Energy_from_on_farm__kcal_yr_]	EV|PI	445139.539
	EV(P)PI	35499.683
Energy intake (kcal_yr)) [Energy_intake__kcal_yr_]	EV|PI	409893.944
	EV(P)PI	254.088
Energy needs per person (kcal yr) [Energy_needs_per_person__kcal_yr_]	EV|PI	405942.762
	EV(P)PI	-3697.094
Farm income [Farm_income]	EV|PI	409639.868
	EV(P)PI	0.012
Food preferences [Food_preferences]	EV|PI	409639.853
	EV(P)PI	-0.003
Fruit available per person (kg_yr) [Fruit_available_per_person__kg_yr_]	EV|PI	407058.692
	EV(P)PI	-2581.164
Fruit consumed per person (kg_yr) [Fruit_consumed_per_person__kg_yr_]	EV|PI	407058.696
	EV(P)PI	-2581.16
Fruit consumption preference per person (kg_yr) [Fruit_consumption_preference_per_person__kg_yr_]	EV|PI	409639.854
	EV(P)PI	-0.002
Fruit produced per person (kg_yr) [Fruit_produced_per_person__kg_yr_]	EV|PI	407058.692
	EV(P)PI	-2581.164
Fruit production area (%) [Fruit_production_area____]	EV|PI	407058.581
	EV(P)PI	-2581.275
Fruit production area per person (ha) [Fruit_production_area_per_person__ha_]	EV|PI	407058.71
	EV(P)PI	-2581.146
Fruit species [M0_1_1_3_1_1_1]	EV|PI	409639.844
	EV(P)PI	-0.012
Fruit yield (kg_ha_yr) [Fruit_yield__kg_ha_yr_]	EV|PI	409639.869
	EV(P)PI	0.013
Fruit yield potential (kg_ha_yr) [Fruit_yield_potential__kg_ha_yr_]	EV|PI	409639.86
	EV(P)PI	0.004
Genetic yield potential (kg_ha_yr) [Genetic_yield_potential__kg_ha_yr_]	EV|PI	409639.856
	EV(P)PI	-0
Germplasm quality [M0_1_1_2_1]	EV|PI	409639.862
	EV(P)PI	0.006
Handling, storage and processing quality (PHL) [Handling__storage_and_processing_quality__PHL_]	EV|PI	409639.854
	EV(P)PI	-0.002
Household composition (nutrient demand groups) [Household_composition__nutrient_demand_groups_]	EV|PI	407865.731
	EV(P)PI	-1774.125
Household labor availability [Household_labor_availability]	EV|PI	409640.169
	EV(P)PI	0.313
Household size [Household_size]	EV|PI	409641.206
	EV(P)PI	1.35
Knowledge and skills [Knowledge_and_skills]	EV|PI	409639.85
	EV(P)PI	-0.006
Labor constraints to irrigation [Labor_constraints_to_irrigation]	EV|PI	409639.863
	EV(P)PI	0.007
Labor constraints to pest and disease management [Labor_constraints_to_pest_and_disease_management]	EV|PI	409639.872
	EV(P)PI	0.016
Labor constraints to postharvest and storage [Labor_constraints_to_postharvest_and_storage]	EV|PI	409639.882
	EV(P)PI	0.026
Labor constraints to Soil Fertility Management (SFM) [Labor_constraints_to_Soil_Fertility_Management__SFM_]	EV|PI	409639.876
	EV(P)PI	0.02

Losses due to biophysical unsuitability (%) [Losses_due_to_biophysical_unsuitability____]	EV|PI	409639.883
	EV(P)PI	0.027
Losses due to pests and diseases (%) [Losses_due_to_pests_and_diseases____]	EV|PI	409639.881
	EV(P)PI	0.025
Natural soil fertility [M0_1_1_1_1_1_4]	EV|PI	409639.856
	EV(P)PI	0
Non_fruit consumption potential per person (kg_yr) [Non_fruit_consumption_potential_per_person__kg_yr_]	EV|PI	424463.062
	EV(P)PI	14823.205
Non_fruit production area per person (ha) [Non_fruit_production_area_per_person__ha_]	EV|PI	407503.967
	EV(P)PI	-2135.889
Non_fruit yield (kg_ha_yr) [Non_fruit_yield__kg_ha_yr_]	EV|PI	409641.688
	EV(P)PI	1.832
Non_fruit yield per person (kg_yr) [Non_fruit_yield_per_person__kg_yr_]	EV|PI	407508.941
	EV(P)PI	-2130.915
Off farm product consumed per person (kg_yr) [Off_farm_product_consumed_per_person__kg_yr_]	EV|PI	414311.5
	EV(P)PI	4671.644
On farm product consumed per person (kg_yr) [On_farm_product_consumed_per_person__kg_yr_]	EV|PI	423424.355
	EV(P)PI	13784.499
Other off_farm Energy content (kcal_kg) [Other_off_farm_Energy_content__kcal_kg_]	EV|PI	425127.094
	EV(P)PI	15487.238
Other on_farm Energy content (kcal kg) [Other_on_farm_Energy_content__kcal_kg_]	EV|PI	426315.339
	EV(P)PI	16675.483
Pest & disease management effectiveness [Pest___disease_management_effectiveness]	EV|PI	409639.858
	EV(P)PI	0.002
Pest & disease management inputs [Pest___disease_management_inputs]	EV|PI	409639.856
	EV(P)PI	0
Pest and disease pressure [Pest_and_disease_pressure]	EV|PI	409639.853
	EV(P)PI	-0.003
PHL (%) [PHL____]	EV|PI	409639.877
	EV(P)PI	0.021
Rainfall adequacy [Rainfall_adequacy]	EV|PI	409639.848
	EV(P)PI	-0.008
Rainfall regime [Rainfall_regime]	EV|PI	409639.854
	EV(P)PI	-0.002
SFM quality [SFM_quality]	EV|PI	409639.875
	EV(P)PI	0.019
Soil fertility [M0_1_1_4_1]	EV|PI	409639.882
	EV(P)PI	0.026
Soil fertility needs [M0_1_1_3_1_1_1_2]	EV|PI	409639.85
	EV(P)PI	-0.006
Temperature suitability [Temperature_suitability]	EV|PI	409639.854
	EV(P)PI	-0.002
Total production area (ha) [Total_production_area__ha_]	EV|PI	409641.405
	EV(P)PI	1.549
Total production area per person (ha) [Total_production_area_per_person__ha_]	EV|PI	409641.832
	EV(P)PI	1.976
Water availability [Water_availability]	EV|PI	409639.862
	EV(P)PI	0.006
Water needs [Water_needs]	EV|PI	409639.856
	EV(P)PI	0
Water sufficiency [Water_sufficiency]	EV|PI	409639.899
	EV(P)PI	0.043

EV(P)PI Graph




Non_fruit consumption potential per person (kg_yr) = 14823.205
On farm product consumed per person (kg_yr) = 13784.499
Energy from off_farm (kcal yr) = 8209.973
Off farm product consumed per person (kg_yr) = 4671.644
Energy intake (kcal_yr)) = 254.088
Total production area per person (ha) = 1.976
Non_fruit yield (kg_ha_yr) = 1.832
Total production area (ha) = 1.549
Household size = 1.35
Household labor availability = 0.313
Water sufficiency = 0.043
Ability to irrigate = 0.036
Losses due to biophysical unsuitability (%) = 0.027
Soil fertility = 0.026
Labor constraints to postharvest and storage = 0.026
Losses due to pests and diseases (%) = 0.025
PHL (%) = 0.021
Labor constraints to Soil Fertility Management (SFM) = 0.02
SFM quality = 0.019
Effect of soil fertility constraints = 0.017
Labor constraints to pest and disease management = 0.016
Fruit yield (kg_ha_yr) = 0.013
Farm income = 0.012
Effect of climatic constraints = 0.011
Labor constraints to irrigation = 0.007
Germplasm quality = 0.006
Water availability = 0.006
Biophysical suitability = 0.005
Fruit yield potential (kg_ha_yr) = 0.004
Pest & disease management effectiveness = 0.002
Annual mean temperatures = 0
Natural soil fertility = 0
Pest & disease management inputs = 0
Water needs = 0
Energy content fruit (kcal_kg) = -0
Genetic yield potential (kg_ha_yr) = -0



[+] EV|PI Graph

[+] Copyright and References