

Livestock & MMS info

production systems,
density distribution,
weights, N excretion

Meteorology/Climate

air temperature, soil temperature,
humidity, wind speed, precipitation,
evaporation, soil moisture

Crop calendar

planting dates,
harvesting dates,
growing seasons

N application

synthetic fertilizers,
application rates,
cropping areas

AMCLIM Model

Housing Module

Livestock info

Management

Meteorology

Housing
systems,
types, envs

Enclosed - Managed ventilation

slat pit houses (in-situ storage),
poultry houses

Partial enclosed - Natural ventilation

slat pit houses (in-situ storage),
barns

Unmanaged manure: dumping,
fishpond, sewage, etc.

Managed manure

Manure Management Module

Management

Meteorology

MMS info

Purpose,
phase,
envs

Manure under management

Fuel, lagoon, left on
pastures (solid manure)

Manure used as fertilizers

Solid manure: indoor storage
Liquid manure: covered/indoor/
outdoor storage

Land Module

Livestock info

Management

Meteorology

Grazing

Year-
round/
Seasonal

Urine patch,
dung pat

Synthetic fertilizer application

N application

Management

Meteorology

Crop calendar

Timing,
techs,
rates

Urea,
NH₄⁺
on 16
major
crops

Manure fertilizer application

Management

Meteorology

Planting season

Timing,
techs,
rates

Slurry,
solid
manure
on field