Theme	Source	Dataset Title	Variable Name	Variable Type	Reference Period	Resolution	Description	Web
Distance	LSMS-ISA	IHPS GPS Coordinates	dist_hh	Continuous	N/A	N/A	Plot distance to household	
Distance	NRA	IHPS GPS Coordinates and Malawi Roads	dist_road	Continuous	N/A	N/A	Household distance to nearest major road (primary and secondary network)	
Distance	World Gazeteer Towns	IHPS GPS Coordinates and Towns	dist_popcenter	Continuous	N/A	N/A	Household distance to nearest town of > 20,000 pop	
Distance	MoAFS Tech Sec	IHPS GPS Coordinates and ADMARC Location	dist_admarc	Continuous	N/A	N/A	Household distance to nearest ADMARC location	
Distance	World Gazeteer Towns	IHPS GPS Coordinates and Tobacco Auction Floors	dist_auction	Continuous	N/A	N/A	Household distance to nearest tobacco auction	
Distance	IFPRI	IHPS GPS Coordinates and Border Posts	dist_borderpost	Continuous	N/A	N/A	Household distance to nearest border post	
Distance	World Gazeteer Towns	IHPS GPS Coordinates and Towns	dist_boma	Continuous	N/A	N/A	Household distance to the boma of the district of residence	
Distance	FEWSNET	IHPS GPS Coordinates and Major Agricultural Markets	dist_agmrkt	Continuous	N/A	N/A	HH Distance to nearest agricultural market	
Climatology	UC Berkeley	WorldClim Bioclimatic Variables	af_bio_1	Continuous	1960-1990	0.008333 dd	Average annual temperature calculated from monthly climatology, multiplied by 10 (°C)	http://www.worldclim.org/bioclim
Climatology	UC Berkeley	WorldClim Bioclimatic Variables	af_bio_8	Continuous	1960-1990	0.008333 dd	Average temperature of the wettest quarter, from monthly climatology, multiplied by 10. (°C)	http://www.worldclim.org/bioclim

Theme	Source	Dataset Title	Variable Name	Variable Type	Reference Period	Resolution	Description	Web
Climatology	UC Berkeley	WorldClim Bioclimatic Variables	af_bio_12	Continuous	1960-1990	0.008333 dd	Total annual precipitation, from monthly climatology (mm)	http://www.worldclim.org/bioclim
Climatology	UC Berkeley	WorldClim Bioclimatic Variables	af_bio_13	Continuous	1960-1990	0.008333 dd	Precipitation of wettest month, from monthly climatology (mm)	http://www.worldclim.org/bioclim
Climatology	UC Berkeley	WorldClim Bioclimatic Variables	af_bio_16	Continuous	1960-1990	0.008333 dd	Precipitation of wettest quarter, from monthly climatology (mm)	http://www.worldclim.org/bioclim
Landscape Typology	ESA and UC Louvain	GlobCover v 2.3	fsrad3_agpct	Continuous	2009	0.002778 dd	Percent under agriculture within approx 1 km buffer	http://ionia1.esrin.esa.int/
Landscape Typology	ESA and UC Louvain	GlobCover v 2.3	fsrad3_lcmaj	Categorical	2009	0.002778 dd	Majority landcover class within approximately 1km buffer	http://ionia1.esrin.esa.int/
Landscape Typology	WorldPop	Africa 2010 Demography (v ap10_180313)	popdensity	string	2010	0.00833 dd	2010 Population Density Range (people per km^2), with national totals adjusted to match UN population division estimates, 2012 revision	http://www.worldpop.org.uk/
Landscape Typology	IFPRI	IFPRI standardized AEZ based on elevation, climatology	ssa_aez09	Categorical		0.008333 dd	Agro-ecological zones created using WorldClim climate data and 0.0833dd resolution LGP data from IIASA.	http://harvestchoice.org/production/biophysical/agroecology
Soil & Terrain	NASA, USGS	SRTM 90m	srtm_1k	Continuous		0.00833 dd	Average elevation (m) within 1 km block	ftp://xftp.jrc.it/pub/srtmV4/arcasci/

Theme	Source	Dataset Title	Variable Name	Variable Type	Reference Period	Resolution	Description	Web
Soil & Terrain	AfSIS	Topographic Wetness Index	twi_mwi	Continuous		0.000833 dd	Local upslope contributing area and slope are combined to determine the potential wetness index (see documentation for detail)	http://www.ciesin.columbia.edu/afsis/bafsis_fullmap.htm#
Soil & Terrain	LSMS-ISA	Terrain Roughness	srtm_mwi_5_15	Categorical		0.000833 dd	Derived from 90m SRTM using Meybeck relief classes and 5x5 pixel neighborhood	
Soil & Terrain	FAO	Harmonized World Soil Database	SQ1	Categorical		0.083333 dd	Nutrient availability	http://www.iiasa.ac.at/Research/LUC/External-World-soil-database/HTML/
Soil & Terrain	FAO	Harmonized World Soil Database	SQ2	Categorical		0.083333 dd	Nutrient retention capacity	http://www.iiasa.ac.at/Research/LUC/External-World-soil-database/HTML/
Soil & Terrain	FAO	Harmonized World Soil Database	SQ3	Categorical		0.083333 dd	Rooting conditions	http://www.iiasa.ac.at/Research/LUC/External-World-soil-database/HTML/
Soil & Terrain	FAO	Harmonized World Soil Database	SQ4	Categorical		0.083333 dd	Oxygen availability to roots	http://www.iiasa.ac.at/Research/LUC/External-World-soil-database/HTML/
Soil & Terrain	FAO	Harmonized World Soil Database	SQ5	Categorical		0.083333 dd	Excess salts	http://www.iiasa.ac.at/Research/LUC/External-World-soil-database/HTML/
Soil & Terrain	FAO	Harmonized World Soil Database	SQ6	Categorical		0.083333 dd	Toxicity	http://www.iiasa.ac.at/Research/LUC/External-World-soil-database/HTML/
Crop Season Parameters	FAO	Harmonized World Soil Database	SQ7	Categorical		0.083333 dd	Workability (constraining field management)	http://www.iiasa.ac.at/Research/LUC/External-World-soil-database/HTML/
Crop Season Parameters	NOAA CPC	Rainfall Estimates (RFE)	anntot_avg	Continuous	2001-2013	0.1 dd	Average 12-month total rainfall (mm) for July-June	ftp://ftp.cpc.ncep.noaa.gov/fews/newalgo_est_dekad/

Theme	Source	Dataset Title	Variable Name	Variable Type	Reference Period	Resolution	Description	Web
Crop Season Parameters	NOAA CPC	Rainfall Estimates (RFE)	wetQ_avg	Continuous	2001-2013	0.1 dd	Average total rainfall in wettest quarter (mm) within 12-month periods from July-June	ftp://ftp.cpc.ncep.noaa.gov/fews/newalgo_est_dekad/
Crop Season Parameters	NOAA CPC	Rainfall Estimates (RFE)	wetQ_avgstart	Continuous	2001-2013	0.1 dd	Average start of wettest quarter in dekads 1-36, where first dekad of July =1	ftp://ftp.cpc.ncep.noaa.gov/fews/newalgo_est_dekad/
Crop Season Parameters	NOAA CPC	Rainfall Estimates (RFE)	h2012_tot	Continuous	2011-2012	0.1 dd	12-month total rainfall (mm) in July-June, starting July 2011	ftp://ftp.cpc.ncep.noaa.gov/fews/newalgo_est_dekad/
Crop Season Parameters	NOAA CPC	Rainfall Estimates (RFE)	h2012_wetQ	Continuous	2011-2012	0.1 dd	Total rainfall in wettest quarter (mm) within 12-month period starting July 2011	ftp://ftp.cpc.ncep.noaa.gov/fews/newalgo_est_dekad/
Crop Season Parameters	NOAA CPC	Rainfall Estimates (RFE)	h2012_wetQstart	Continuous	2011-2012	0.1 dd	Start of wettest quarter in dekads 1-36, where first dekad of July 2011 =1	ftp://ftp.cpc.ncep.noaa.gov/fews/newalgo_est_dekad/
Crop Season Parameters	NOAA CPC	Rainfall Estimates (RFE)	h2013_tot	Continuous	2012-2013	0.1 dd	12-month total rainfall (mm) in July-June, starting July 2012	ftp://ftp.cpc.ncep.noaa.gov/fews/newalgo_est_dekad/
Crop Season Parameters	NOAA CPC	Rainfall Estimates (RFE)	h2013_wetQ	Continuous	2012-2013	0.1 dd	Total rainfall in wettest quarter (mm) within 12-month periods starting July 2012	ftp://ftp.cpc.ncep.noaa.gov/fews/newalgo_est_dekad/
Crop Season Parameters	NOAA CPC	Rainfall Estimates (RFE)	h2013_wetQstart	Continuous	2012-2013	0.1 dd	Start of wettest quarter in dekads 1-36, where first dekad of July 2012 =1	ftp://ftp.cpc.ncep.noaa.gov/fews/newalgo_est_dekad/

Theme	Source	Dataset Title	Variable Name	Variable Type	Reference Period	Resolution	Description	Web
Crop Season Parameters	BU	MOD12Q2 (DOY 185) Land Cover Dynamics from MODIS	eviarea_avg	Continuous	2001-2013	0.004176 dd	Average total change in greenness (integral of daily EVI values) within primary growing season, averaged by district	ftp://e4ftl01.cr.usgs.gov/MOTA/MCD12Q2.005, DOY185 version provided upon request from MODIS Land Cover Group at Boston University
Crop Season Parameters	BU	MOD12Q2 (DOY 185) Land Cover Dynamics from MODIS	grn_avg	Continuous	2001-2013	0.004176 dd	Average timing of onset of greenness increase in day of year 1-356, where Jul 1 = 1, averaged by district	ftp://e4ftl01.cr.usgs.gov/MOTA/MCD12Q2.005, DOY185 version provided upon request from MODIS Land Cover Group at Boston University
Crop Season Parameters	BU	MOD12Q2 (DOY 185) Land Cover Dynamics from MODIS	sen_avg	Continuous	2001-2013	0.004176 dd	Average timing of onset of greenness decrease in day of year 1-356, where Jul 1 = 1, averaged by district	ftp://e4ftl01.cr.usgs.gov/MOTA/MCD12Q2.005, DOY185 version provided upon request from MODIS Land Cover Group at Boston University
Crop Season Parameters	BU	MOD12Q2 (DOY 185) Land Cover Dynamics from MODIS	evimax_avg	Continuous	2001-2013	0.004176 dd	Avg EVI value at peak of greenness, averaged by district	ftp://e4ftl01.cr.usgs.gov/MOTA/MCD12Q2.005, DOY185 version provided upon request from MODIS Land Cover Group at Boston University
Crop Season Parameters	BU	MOD12Q2 (DOY 185) Land Cover Dynamics from MODIS	h2012_eviarea	Continuous	2011-2012	0.004176 dd	Total change in greenness (integral of daily EVI values) within primary growing season for July 2011 - Jun 2012, averaged by district	ftp://e4ftl01.cr.usgs.gov/MOTA/MCD12Q2.005, DOY185 version provided upon request from MODIS Land Cover Group at Boston University
Crop Season Parameters	BU	MOD12Q2 (DOY 185) Land Cover Dynamics from MODIS	h2012_grn	Continuous	2011-2012	0.004176 dd	Onset of greenness increase in day of year 1-356, starting July 1 2011, averaged by district	ftp://e4ftl01.cr.usgs.gov/MOTA/MCD12Q2.005, DOY185 version provided upon request from MODIS Land Cover Group at Boston University

Theme	Source	Dataset Title	Variable Name	Variable Type	Reference Period	Resolution	Description	Web
Crop Season Parameters	BU	MOD12Q2 (DOY 185) Land Cover Dynamics from MODIS	h2012_sen	Continuous	2011-2012	0.004176 dd	Onset of greenness decrease in day of year 1-356, starting July 1 2011, averaged by district	ftp://e4ftl01.cr.usgs.gov/MOTA/MCD12Q2.005, DOY185 version provided upon request from MODIS Land Cover Group at Boston University
Crop Season Parameters	BU	MOD12Q2 (DOY 185) Land Cover Dynamics from MODIS	h2012_evimax	Continuous	2011-2012	0.004176 dd	EVI value at peak of greenness within growing season,starting July 1 2011, averaged by district	ftp://e4ftl01.cr.usgs.gov/MOTA/MCD12Q2.005, DOY185 version provided upon request from MODIS Land Cover Group at Boston University
Crop Season Parameters	BU	MOD12Q2 (DOY 185) Land Cover Dynamics from MODIS	h2013_eviarea	Continuous	2012-2013	0.004176 dd	Total change in greenness (integral of daily EVI values) within primary growing season for July 2012 - Jun 2013, averaged by district	ftp://e4ftl01.cr.usgs.gov/MOTA/MCD12Q2.005, DOY185 version provided upon request from MODIS Land Cover Group at Boston University
Crop Season Parameters	BU	MOD12Q2 (DOY 185) Land Cover Dynamics from MODIS	h2013_grn	Continuous	2012-2013	0.004176 dd	Onset of greenness increase in day of year 1-356, starting July 1 2012, averaged by district	ftp://e4ftl01.cr.usgs.gov/MOTA/MCD12Q2.005, DOY185 version provided upon request from MODIS Land Cover Group at Boston University
Crop Season Parameters	BU	MOD12Q2 (DOY 185) Land Cover Dynamics from MODIS	h2013_sen	Continuous	2012-2013	0.004176 dd	Onset of greenness decrease in day of year 1-356, starting July 1 2012, averaged by district	ftp://e4ftl01.cr.usgs.gov/MOTA/MCD12Q2.005, DOY185 version provided upon request from MODIS Land Cover Group at Boston University
Crop Season Parameters	BU	MOD12Q2 (DOY 185) Land Cover Dynamics from MODIS	h2013_evimax	Continuous	2012-2013	0.004176 dd	Onset of greenness decrease in day of year 1-356, starting July 1 2012, averaged by district	ftp://e4ftl01.cr.usgs.gov/MOTA/MCD12Q2.005, DOY185 version provided upon request from MODIS Land Cover Group at Boston University
Coordinates	LSMS-ISA	GPS Latitude Modified	LAT_DD_MOD	Continuous	2013		Coordinates of location, modified to preserve anonymity	

Theme	Source	Dataset Title	Variable Name	Variable Type	Reference Period	Resolution	Description	Web
Coordinates	LSMS-ISA	GPS Longitude Modified	LON_DD_MOD	Continuous	2013		Coordinates of location, modified to preserve anonymity	
Coordinates	LSMS-ISA	IHPS GPS Coordinates	distY1Y2	Continuous	2013		Distance to baseline location (km)	
Plot Distance	LSMS-ISA	IHPS GPS Coordinates	dist_hh	Continuous		N/A	Plot distance to household	
Plot Soil & Terrain	USGS	Plot Slope (percent)	srtmslp_mwi	Continuous		0.000833 dd	Average slope, derived from 90m SRTM	http://pubs.usgs.gov/of/2007/1188/, data provided by USGS upon request
Plot Soil & Terrain	USGS	Plot Elevation (m)	srtm_mwi	Continuous		0.000833 dd	Average elevation, derived from 90m SRTM	http://pubs.usgs.gov/of/2007/1188/, data provided by USGS upon request
Plot Soil & Terrain	AfSIS	Plot Potential Wetness Index	twi_mwi	Continuous		0.000833 dd	Local upslope contributing area and slope are combined to determine the potential wetness index (see documentation for detail)	http://www.ciesin.columbia.edu/afsis/bafsis_fullmap.htm#

Variable Name	Value	Value Label
SQ1	0	Ocean
SQ1	1	No or Slight Constraint
SQ1	2	Moderate Constraint
SQ1	3	Severe Constraint
SQ1	4	Very Severe Constraint
SQ1	5	Mainly Non-Soil
SQ1	6	Permafrost
SQ1	7	Water
SQ2	0	Ocean
SQ2	1	No or Slight Constraint
SQ2	2	Moderate Constraint
SQ2	3	Severe Constraint
SQ2	4	Very Severe Constraint
SQ2	5	Mainly Non-Soil
SQ2	6	Permafrost
SQ2	7	Water
SQ3	0	Ocean
SQ3	1	No or Slight Constraint
SQ3	2	Moderate Constraint
SQ3	3	Severe Constraint
SQ3	4	Very Severe Constraint
SQ3	5	Mainly Non-Soil
SQ3	6	Permafrost
SQ3	7	Water
SQ4	0	Ocean
SQ4	1	No or Slight Constraint
SQ4	2	Moderate Constraint
SQ4	3	Severe Constraint
SQ4	4	Very Severe Constraint
SQ4	5	Mainly Non-Soil
SQ4	6	Permafrost
SQ4	7	Water
SQ5	0	Ocean
SQ5	1	No or Slight Constraint
SQ5	2	Moderate Constraint
SQ5	3	Severe Constraint
SQ5	4	Very Severe Constraint
SQ5	5	Mainly Non-Soil
SQ5	6	Permafrost
SQ5	7	Water
SQ6	0	Ocean
SQ6	1	No or Slight Constraint
SQ6	2	Moderate Constraint
SQ6	3	Severe Constraint
SQ6	4	Very Severe Constraint
SQ6	5	Mainly Non-Soil
SQ6	6	Permafrost
SQ6	7	Water
SQ7	0	Ocean
SQ7	1	No or Slight Constraint
SQ7	2	Moderate Constraint

Variable Name	Value	Value Label
SQ7	3	Severe Constraint
SQ7	4	Very Severe Constraint
SQ7	5	Mainly Non-Soil
SQ7	6	Permafrost
SQ7	7	Water
ssa_aez09	101	Temperate / arid
ssa_aez09	102	Temperate / Semi-arid
ssa_aez09	103	Temperate / sub-humid
ssa_aez09	104	Temperate / humid
ssa_aez09	211	Subtropic - warm / arid
ssa_aez09	212	Subtropic - warm / semiarid
ssa_aez09	213	Subtropic - warm / subhumid
ssa_aez09	214	Subtropic - warm / humid
ssa_aez09	221	Subtropic - cool / arid
ssa_aez09	222	Subtropic - cool / semiarid
ssa_aez09	223	Subtropic - cool / subhumid
ssa_aez09	224	Subtropic - cool / humid
ssa_aez09	311	Tropic - warm / arid
ssa_aez09	312	Tropic - warm / semiarid
ssa_aez09	313	Tropic - warm / subhumid
ssa_aez09	314	Tropic - warm / humid
ssa_aez09	321	Tropic - cool / arid
ssa_aez09	322	Tropic - cool / semiarid
ssa_aez09	323	Tropic - cool / subhumid
ssa_aez09	324	Tropic - cool / humid
ssa_aez09	400	Boreal
fsrad3_lcmaj	11	Post-flooding or irrigated croplands (or aquatic)
fsrad3_lcmaj	14	Rainfed croplands
fsrad3_lcmaj	20	Mosaic cropland (50-70%) / vegetation (grassland/shrubland/forest) (20-50%)
fsrad3_lcmaj	30	Mosaic vegetation (grassland/shrubland/forest) (50-70%) / cropland (20-50%)
fsrad3_lcmaj	40	Closed to open (>15%) broadleaved evergreen or semi-deciduous forest (>5m)
fsrad3_lcmaj	50	Closed (>40%) broadleaved deciduous forest (>5m)
fsrad3_lcmaj	60	Open (15-40%) broadleaved deciduous forest/woodland (>5m)
fsrad3_lcmaj	70	Closed (>40%) needleleaved evergreen forest (>5m)
fsrad3_lcmaj	90	Open (15-40%) needleleaved deciduous or evergreen forest (>5m)
fsrad3_lcmaj	100	Closed to open (>15%) mixed broadleaved and needleleaved forest (>5m)
fsrad3_lcmaj	110	Mosaic forest or shrubland (50-70%) / grassland (20-50%)
fsrad3_lcmaj	120	Mosaic grassland (50-70%) / forest or shrubland (20-50%)
fsrad3_lcmaj	130	Closed to open (>15%) (broadleaved or needleleaved, evergreen or deciduous) shrubland (<5m)
fsrad3_lcmaj	140	Closed to open (>15%) herbaceous vegetation (grassland, savannas or lichens/mosses)
fsrad3_lcmaj	150	Sparse (<15%) vegetation

Variable Name	Value	Value Label
fsrad3_lcmaj	160	Closed to open (>15%) broadleaved forest regularly flooded (semi-permanently or temporarily) - Fresh or brackish water
fsrad3_lcmaj	170	Closed (>40%) broadleaved forest or shrubland permanently flooded - Saline or brackish water
fsrad3_lcmaj	180	Closed to open (>15%) grassland or woody vegetation on regularly flooded or waterlogged soil - Fresh, brackish or saline water
fsrad3_lcmaj	190	Artificial surfaces and associated areas (Urban areas >50%)
fsrad3_lcmaj	200	Bare areas
fsrad3_lcmaj	210	Water bodies
fsrad3_lcmaj	220	Permanent snow and ice
fsrad3_lcmaj	230	No data (burnt areas, clouds,…)
srtm_eaf_5_15	1	Plains
srtm_eaf_5_15	2	Mid-altitude plains
srtm_eaf_5_15	3	High-altitude plains
srtm_eaf_5_15	4	Lowlands
srtm_eaf_5_15	5	Rugged lowlands
srtm_eaf_5_15	6	Platforms (very low plateaus)
srtm_eaf_5_15	7	Low plateaus
srtm_eaf_5_15	8	Mid-altitude plateaus
srtm_eaf_5_15	9	High plateaus
srtm_eaf_5_15	10	Very high plateaus
srtm_eaf_5_15	11	Hills
srtm_eaf_5_15	12	Low mountains
srtm_eaf_5_15	13	Mid altitude mountains
srtm_eaf_5_15	14	High mountains
srtm_eaf_5_15	15	Very high mountains