

Sri Lanka - Sustainable Intensification of Crop Production in Anuradhapura District, Sri Lanka, 2021

**Food and Agriculture Organization of the United Nations, Agrifood Economics and
Policy Division (ESA)**

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Identification

SURVEY ID NUMBER

LKA_2021_SLKSICPAD_v01_EN_M_v01_A_ESS

TITLE

Sustainable Intensification of Crop Production in Anuradhapura District, Sri Lanka, 2021

COUNTRY

Name	Country code
Sri Lanka	LKA

STUDY TYPE

Agricultural Survey [ag/oth]

ABSTRACT

The Sustainable Intensification of Crop Production in Anuradhapura District, 2021 study assesses the welfare impacts of agricultural strategies adopted by Sri Lankan rice farmers to adapt to low rainfall conditions across three different dimensions: (a) sensitivity to water stress, (b) household productivity, and (c) household livelihood conditions.

KIND OF DATA

Sample survey data [ssd]

UNIT OF ANALYSIS

Households

Scope

NOTES

- Household Characteristics: Identification and demographic details.
- Farm Land Use and Management: Details on plot characteristics, land preparation, water management, and crop production.
- Fertilizer Acquisition: Information on types and sources of fertilizers used.
- Seed and Planting Material Acquisition: Data on seed types and sources.
- Crop Sales: Details on the sale of crops produced.
- Livestock, Poultry, and Fish Farming: Information on non-crop farming activities.
- Off-Farm Income and Remittances: Data on household income from non-farming sources.
- Loans/Credit/Insurance: Information on financial instruments used by households.
- Agricultural Information and Services: Access to agricultural advice and services.
- Household Assets and Dwelling Characteristics: Assessment of household wealth and living conditions.

Coverage

GEOGRAPHIC COVERAGE

Primarily rural areas with a central urban hub in the city of Anuradhapura.

Producers and sponsors

PRIMARY INVESTIGATORS

Name	Affiliation
Food and Agriculture Organization of the United Nations, Agrifood Economics and Policy Division (ESA)	FAO

PRODUCERS

Name	Role
Hector Kobbekaduwa Agrarian Research and Training Institute (Sri Lanka)	Data Collector

Sampling

SAMPLING PROCEDURE

Sampling Procedure Required:

The total sample size of this survey is 1100 households representing paddy and other farming households in the Anuradhapura District. The Multistage Stratified Random Sampling Method was used:

- First Stage: Stratification based on irrigation type - major irrigation, minor irrigation, rainfed, and Mahaweli.
- Second Stage: Random selection of 110 Farmer Organizations within 11 Divisional Secretariat Divisions (DSDs).
- Third Stage: Random selection of 10 farming households from each selected Farmer Organization, with three reserve households to ensure the sample size is met if there are non-responses.

WEIGHTING

Sample weights were calculated for the household data to ensure representativeness and account for the sampling design. The following weighting variables are used:

- First Stage Weight (firststageweight): Computed as the inverse of the probability of selection at the village level. This weight accounts for the probability of a village being selected within each stratum (irrigation type).
- Second Stage Weight (secondstageweights): Calculated as the inverse of the probability of selecting a Farmer Organization within each selected village. This weight adjusts for the different probabilities of selecting Farmer Organizations based on their size.
- Third Stage Weight (thirdstageweights): Determined as the inverse of the probability of selecting a household within each Farmer Organization. This weight ensures that each household within a selected Farmer Organization is appropriately represented.
- Final Weight (finalweights): This is the product of the first, second, and third stage weights. The final weight is normalized so that the total weighted number of households equals the total unweighted number of households. This weight is used in the analysis to ensure that survey estimates are representative of the entire population of farming households in Anuradhapura District.

Data Collection

DATES OF DATA COLLECTION

Start	End
2021-10-07	2021-11-24

DATA COLLECTION MODE

Computer Assisted Personal Interview [capi]

DATA COLLECTION NOTES

During the data collection for the survey on Sustainable Intensification of Crop Production in Anuradhapura District, enumerators underwent a thorough training process that included familiarization with the survey tools and methods. Interviews were conducted in a manner that emphasized consistency and neutrality, and on average, each interview took

approximately 120 minutes. Supervisors played a critical role in ensuring data quality by reviewing completed questionnaires and addressing any issues encountered in the field. Corrective actions were taken when necessary, including the rejection of incomplete questionnaires and the need for re-interviews. The documents do not mention the conduct of a pilot survey or detailed anecdotal reports from the field teams.

Questionnaires

QUESTIONNAIRES

The data collection process for the Sustainable Intensification of Crop Production in Anuradhapura District involved a comprehensive Household Survey Questionnaire, meticulously crafted by the Environmental and Water Resources Management Division of HARTI in collaboration with FAO. Drawing from previous surveys, the questionnaire was specifically tailored to meet the project's objectives. The design process included stakeholder consultations, ensuring that all relevant topics, such as household demographics, land use, crop management, and income, were comprehensively addressed.

Data Processing

DATA EDITING

The microdata files for the Sustainable Intensification of Crop Production in Anuradhapura District were carefully processed to ensure they met several critical data quality and privacy standards. Specifically, the files were stripped of any variables that could directly identify a data subject, such as names, phone numbers, ID numbers, addresses, or geo-references. Sensitive information that could potentially cause harm, such as HIV status, was also excluded. All categorical variables were properly labeled, and missing values were clearly coded and labeled. Each dataset included a unique identifier or a combination of variables that uniquely identified every record. Numerical variables were checked to ensure they fell within realistic thresholds, and any variables with all missing values were removed. Additionally, if the dataset had a hierarchical structure, the relationships between datasets were clarified with unique identification variables to facilitate accurate data merging. If any weighting factors were required but missing, an explanation was provided along with guidance on the appropriate use of the dataset.

Access policy

CONFIDENTIALITY

The users shall not take any action with the purpose of identifying any individual entity (i.e. person, household, enterprise, etc.) in the micro dataset(s). If such a disclosure is made inadvertently, no use will be made of the information, and it will be reported immediately to FAO

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- Any results derived from the micro dataset will be used solely for reporting aggregated information, and not for any specific individual entities or data subjects;
- The users shall not take any action with the purpose of identifying any individual entity (i.e. person, household, enterprise, etc.) in the micro dataset(s). If such a disclosure is made inadvertently, no use will be made of the information, and it will be reported immediately to FAO;
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Metadata production

DDI DOCUMENT ID

DDI_LKA_2021_SLKSICPAD_v01_EN_M_v01_A_ESS_FAO

PRODUCERS

Name	Abbreviation	Affiliation	Role
Agrifood Economics and Policy Division	ESA	FAO	Metadata producer
Statistics Division	ESS	FAO	Metadata adapted for FAM

Data Dictionary

Data file	Cases	Variables
alcrop_roster_clean_anon	1448	77
aucrop_roster_clean_anon	974	75
cashrec_clean_anon	1292	7
cropstk_roster_clean_anon	1256	23
cropstk_roster_clean_anon	1256	23
cucrop_roster_clean_anon	582	75
field_clean_anon	4584	280
gardorch_clean_anon	1236	26
keyserv_clean_anon	16500	13
lna_roster_clean_anon	394	9
lstock_clean_anon	212	19
ofertch_roster_clean_anon	1047	5
off_farm_clean_anon	1743	18
retch_roster_clean_anon	1786	14
rstrans_clean_anon	815	23
seedch_roster_clean_anon	1054	9
srcode_clean_anon	2075	7
mem_roster_clean_anon	4135	26