United Republic of Tanzania - Annual Agricultural Sample Survey 2022/23

National Bureau of Statistics, Office of the Chief Government Statistician

Report generated on: November 13, 2024

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Identification

SURVEY ID NUMBER
TZA_2022-2023_AASS_v01_EN_M_V01_A_ESS

TITLE
Annual Agricultural Sample Survey 2022/23

TRANSLATED TITLE
Utafiti wa Kilimo wa Mwaka 2022/23

COUNTRY

Name	Country code
United Republic of Tanzania	TZA

STUDY TYPE
Agricultural Survey [ag/oth]

SERIES INFORMATION
The Annual Agriculture Sample Survey (AASS) for the 2022/23 agricultural year is the third in a series of annual agricultural surveys conducted in Tanzania. It is the new series which have been implemented by the Government of United Republic of Tanzania under the 50x2030 Initiative.

Previous surveys in this series were conducted in the 2014/15 and 2016/17 agricultural years. The earlier surveys primarily relied on identifying GPS data points followed by household interviews. In contrast, the current 2022/23 survey employs a household-based methodology, directly interviewing sampled agricultural households.

ABSTRACT
The Annual Agricultural Sample Survey (AASS) for the year 2022/23 aimed to enhance the understanding of agricultural activities across the United Republic of Tanzania by collecting comprehensive data on various aspects of the agricultural sector. This survey is crucial for policy formulation, development planning, and service delivery, providing reliable data to monitor and evaluate national and international development frameworks.

The 2022/23 survey is particularly significant as it informs the monitoring and evaluation of key agricultural development strategies and frameworks. The collected data will contribute to the Tanzania Development Vision 2025, Zanzibar Development Vision 2020, the Five-Year Development Plan 2021/22–2025/26, the National Strategy for Growth and Reduction of Poverty (NSGRP) known as MKUKUTA, and the Zanzibar Strategy for Growth and Reduction of Poverty (ZSGRP) known as MKUZA. The survey data also supports the evaluation of Sustainable Development Goals (SDGs) and Comprehensive Africa Agriculture Development Programme (CAADP). Key indicators for agricultural performance and poverty monitoring are directly measured from the survey data.

The 2022/23 AASS provides a detailed descriptive analysis and related tables on the main thematic areas. These areas include household members and holder identification, field roster, seasonal plot and crop rosters (Vuli, Masika, and Dry Season), permanent crop production, crop harvest use, seed and seedling acquisition, input use and acquisition (fertilizers and pesticides), livestock inventory and changes, livestock production costs, milk and eggs production, other livestock products, aquaculture production, and labor dynamics. The 2022/23 AASS offers an extensive dataset essential for understanding the current state of agriculture in Tanzania. The insights gained will support the development of policies and interventions aimed at enhancing agricultural productivity, sustainability, and the livelihoods of farming communities. This data is indispensable for stakeholders addressing challenges in the agricultural sector and promoting sustainable agricultural development.

Statistical Disclosure Control (SDC) methods have been applied to the microdata, to protect the confidentiality of the individual data collected. Users must be aware that these anonymization or SDC methods modify the data, including suppression of some data points. This affects the aggregated values derived from the anonymized microdata, and may have other unwanted consequences, such as sampling error and bias. Additional details about the SDC methods and data access conditions are provided in the data processing and data access conditions below.

KIND OF DATA
Sample survey data [ssd]

UNIT OF ANALYSIS
Households for Smallholder Farmers and Farm for Large Scale Farms

Version

VERSION DESCRIPTION
v1.0: Edited, anonymized dataset for public distribution (Public Use File)

VERSION DATE
2024-07-05

Scope

NOTES
The Annual Agriculture Survey 2022/23 covered both large-scale and household farming. The main topics covered for both types of farming were as follows:
a) Household Members and Holder Identification
b) Field Roster
c) Vuli Plot Roster
d) Vuli Crop Roster
e) Masika and Dry Season Plot Roster
f) Masika and Dry Season Crop Roster
g) Permanent Crop Production
h) Crop Harvest Use
i) Seed and Seedling Acquisition
j) Input Use and Acquisition (Fertilizer and Pesticides)
k) Livestock in Stock and Change in Stock
l) Livestock Production Costs
m) Milk Production
n) Eggs Production
o) Other Livestock Products
p) Aquaculture Production
q) Labour

TOPICS

Topic	Vocabulary	URI
Agriculture Production	ELSST Thesaurus (Version 4 - 2023)	Link
Food production	ELSST Thesaurus (Version 4 - 2023)	Link
Crops	ELSST Thesaurus (Version 4 - 2023)	Link

Coverage

GEOGRAPHIC COVERAGE
National, Mainland Tanzania and Zanzibar, Regions

UNIVERSE
The survey covered agricultural households and large-scale farms.

Agricultural households are those that meet one or more of the following two conditions:
a) Have or operate at least 25 square meters of arable land,
b) Own or keep at least one head of cattle or five goats/sheep/pigs or fifty chicken/ducks/turkeys during the agriculture year.

Large-scale farms are those farms with at least 20 hectares of cultivated land, or 50 herds of cattle, or 100 goats/sheep/pigs, or 1,000 chickens.
In addition to this, they should fulfill all of the following four conditions:

i) The greater part of the produce should go to the market,
ii) Operation of farm should be continuous,
iii) There should be application of machinery / implements on the farm, and
iv) There should be at least one permanent employee.

Producers and sponsors

PRIMARY INVESTIGATORS

Name	Affiliation
National Bureau of Statistics	Government of Tanzania
Office of the Chief Government Statistician	The Revolutionary Government of Zanzibar

PRODUCERS

Name	Affiliation	Role
Food and Agriculture Organization of the United Nations	United Nations	Technical assistance in the design, implementation and dissemination of AASS 2022/23
Ministry of Agriculture	Government of Tanzania	Technical assistance
Ministry of Livestock and Fisheries	Government of Tanzania	Technical assistance
Ministry of Industry and Trade	Government of Tanzania	Technical assistance
Ministry of Agriculture, Irrigation, Natural Resources and Livestock	The Revolutionary Government of Zanzibar	Technical assistance

FUNDING AGENCY/SPONSOR

Name	Abbreviation
The Government of United Republic of Tanzania	
World Bank's IDA project	WB
International Fund for Agricultural Development	IFAD
Food and Agriculture Organization of the United Nations	FAO

Sampling

SAMPLING PROCEDURE
The frame used to extract the sample for the Annual Agricultural Sample Survey (AASS-2022/23) in Tanzania was derived from the 2022 Population and Housing Census (PHC-2022) Frame that lists all the Enumeration Areas (EAs/Hamlets) of the country. The AASS 2022/23 used a stratified two-stage sampling design which allows to produce reliable estimates at regional level for both Mainland Tanzania and Zanzibar.

In the first stage, the EAs (primary sampling units) were stratified into 2-3 strata within each region and then selected by using a systematic sampling procedure with probability proportional to size (PPS), where the measure of size is the number of agricultural households in the EA. Before the selection, within each stratum and domain (region), the Enumeration Areas (EAs) were ordered according to the codes of District and Council which reflect the geographical proximity, and then ordered according to the codes of Constituency, Division, Wards, and Village. An implicit stratification was also performed, ordering by Urban/Rural type at Ward level.

In the second stage, a simple random sampling selection was conducted . In hamlets with more than 200 households, twelve (12) agricultural households were drawn from the PHC 2022 list with a simple random sampling without replacement procedure in each sampled hamlet. In hamlets with 200 households or less, a listing exercise was carried out in each sampled hamlet, and twelve (12) agricultural households were selected with a simple random sampling without replacement procedure. A total of 1,352 PSUs were selected from the 2022 Population and Housing Census frame, of which 1,234 PSUs

were from Mainland Tanzania and 118 from Zanzibar. A total number of 16,224 agricultural households were sampled (14,808 households from Mainland Tanzania and 1,416 from Zanzibar).

RESPONSE RATE

Out of 1,352 sampled EAs, 11 EAs could not be accessed due to bad weather conditions, particularly floods. The first-stage sampling weights relative to these 11 EAs were redistributed among the EAs in the same stratum and domain (i.e. Region).

In the accessed EAs, there are:
- 14,548 complete interviews,
- 1,428 ineligible households (they moved outside the EA or do not practice anymore agriculture), and
- 58 non-responses.

The second-stage sampling weights of the ineligible households have not been redistributed and they have been dropped from the AASS 2023 dataset. The second-stage weights of the non-responses were redistributed among the eligible households that live in the same EA.

As a result:
- The rate of non-response is very low, i.e. 0.03%.
- The rate of ineligibility is around 8.8%.

WEIGHTING

The basic sampling weights as computed according to the sampling design have been adjusted for non-response and then calibrated by using as a source the frame (version of March 2024) derived from the Population and Housing Census 2022 (PHC 2022) and from which the AASS23 sample has been extracted. The below table shows the number of agricultural households as estimated from the sample by using the adjusted weights and the number of agricultural households in the updated frame by Region. The calibration coefficient in each Region R is computed dividing the latter by the former, i.e.

Calibration coefficient_r = (AgHH frame_r) / (Sum[W_ir] from i = 1 to N_r)

where:
r is the region,
i is the i-th household in region r,
AgHH frame_r is the number of households in the frame in region r,
W_ir is is the final adjusted weight of household i in region r, and
N_r is the is the number of households in the sample in region r

The calibrated sampling weights were computed multiplying the calibration coefficient by the adjusted sampling weights. In the dataset the variable indicating the calibrated sampling weight for each household is weight_final_calibrated.

Table. Agricultural Households as computed from the sample and frame, by Region, and the associated calibration coefficients.

REGION	Ag. hold. estim. from sample	Ag. hold. computed from frame	Calibration Coefficient
Dodoma	396,605	553,124	1.3946
Arusha	242,699	337,598	1.3910
Kilimanjaro	247,528	335,627	1.3559
Tanga	296,941	462,923	1.5590
Morogoro	356,382	560,248	1.5720
Pwani	208,561	261,038	1.2516
Dar es Salaam	170,923	240,681	1.4081
Lindi	216,160	278,215	1.2871
Mtwara	353,817	394,048	1.1137
Ruvuma	259,448	376,275	1.4503
Iringa	178,157	236,483	1.3274
Mbeya	273,363	392,725	1.4366
Singida	252,748	308,882	1.2221
Tabora	272,964	444,349	1.6279
Rukwa	180,602	247,649	1.3712
Kigoma	293,863	319,151	1.0861
Shinyanga	249,449	275,456	1.1043
Kagera	422,230	548,229	1.2984

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Mwanza...................310,293........................................401,578.......................................1.2942
Mara........................241,573........................................322,464.......................................1.3349
Manyara.................227,148........................................306,858.......................................1.3509
Njombe..................131,523........................................195,146.......................................1.4837
Katavi....................110,230........................................150,583.......................................1.3661
Simiyu....................182,080........................................257,261.......................................1.4129
Geita......................231,333........................................362,130.......................................1.5654
Songwe..................190,007........................................246,468.......................................1.2972
Kaskazini Unguja....23,311........................................27,489.......................................1.1792
Kusini Unguja.........18,035........................................27,506.......................................1.5252
Mjini Magharibi.......33,035........................................38,983.......................................1.1801
Kaskazini Pemba.....27,273........................................32,207.......................................1.1809
Kusini Pemba.........32,401........................................29,265.......................................0.9032
TOTAL................6,630,682....................................8,970,639
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Data Collection

DATES OF DATA COLLECTION

Start	End	Cycle
2023-11-05	2024-02-10	Single visit

TIME PERIODS

Start date	End date
2022-10-01	2023-09-30

DATA COLLECTION MODE
Computer Assisted Personal Interview [capi]

SUPERVISION
The oversight of the data collection process is crucial to ensure the quality and accuracy of the information gathered during the Annual Agriculture Sample Survey for the agriculture year 2022/23. The supervision strategy involved a structured hierarchy of enumerators, controllers, and supervisors, with additional oversight by NBS/OCGS management. This approach helped maintain the integrity of the data collection process and supervision, ensuring that the final dataset was reliable and accurately represented the agricultural activities in the surveyed regions. Here is a detailed description of the supervision process:

(i) Organization of Enumerators in Teams
Enumerators were organized into teams, each consisting of a group of interviewers, a quality controller, and a supervisor. This hierarchical structure ensured effective oversight and support throughout the data collection process. Typically, each team had one supervisor for every five to ten enumerators. The quality controller was responsible for overseeing both the regional supervisors and the work of the interviewers. This specialization allowed for adequate supervision and support, ensuring that any issues encountered by the enumerators could be promptly addressed.

(ii) Roles of Controllers/Supervisors
- Supervisors/Controllers closely monitored the data collected by enumerators, reviewing questionnaires for completeness and accuracy according to survey guidelines.
- Provided immediate feedback to enumerators on any errors or inconsistencies found in the data, offering guidance on how to correct and avoid such issues in the future.
- Assisted enumerators with any technical issues encountered during data collection, including difficulties with tables or specific question interpretation
- Supervisors were in charge of managing the overall team operations. They coordinated daily activities, ensuring that enumerators adhered to their schedules and completed their assigned tasks.
- Supervisors conducted regular field visits to observe enumerators during interviews, providing real-time coaching and support. They ensured that enumerators followed the proper protocols and maintained standards of data collection.
- Supervisors addressed any logistical or operational challenges faced by the teams, such as transportation issues, respondent availability, or environmental factors affecting data collection.
- Supervisors compiled regular reports on the progress and challenges of the data collection process and communicated these to upper management for further action.

(iii) Visits by NBS/OCGS Management
NBS/OCGS management conducted periodic field visits to monitor the data collection process and ensure adherence to the survey plan. These visits typically occurred at key stages of the survey, such as the beginning, mid-point, and before the end of the data collection period. During these visits, the management
- Assessed and reviewed data quality checks and validation processes to ensure standards were maintained.
- Interacted with enumerators, controllers, and supervisors to understand the challenges they faced and to provide additional support and motivation.
- Checked that all teams were complying with survey guidelines and protocols, addressing any deviations promptly.
- Offered strategic and extra guidance based on observations and feedback from the field, helping to refine data collection techniques and improve efficiency.

DATA COLLECTION NOTES
Field work supervisors and enumerators were trained before the start of the Survey. They were taught on the importance of collecting quality data. The issue of consistency checks to enhance the quality of the data was also emphasized. The trainers were from the National Bureau of Statistics, Office of the Chief Government Statistician, and Agriculture Sector Lead Ministries.

Data collection activities for the Survey took three months to complete from November, 2023 to early February, 2024. The method used for data collection was face to face interview. Field work was monitored through a hierarchical system of supervisors, starting with the National Team at the top, followed by the regional supervisors and enumerator team supervisors. The National Team included two senior supervisors who were responsible for overall direction of field operations and responded to queries raised outside the scope of the training exercise.

DATA COLLECTORS

Name	Abbreviation	Affiliation
National Bureau of Statistics	NBS	Government of Tanzania
Office of the Chief Government Statistician	OCGS	The Revolutionary Government of Zanzibar

Questionnaires

QUESTIONNAIRES
The 2022/23 Annual Agricultural Survey used two main questionnaires consolidated into a single questionnaire within the CAPIthe CAPI System, Smallholder Farmers and Large-Scale Farms Questionnaire. Smallholder Farmers questionnaire captured information at household level while Large Scale Farms questionnaire captured information at establishment/holding level. These questionnaires were used for data collection that covered core agricultural activities (crops, livestock, and fish farming) in both short and long rainy seasons. The 2022/23 AASS questionnaire covered 23 sections which are:

1. COVER; The cover page included the title of the survey, survey year (2022/23), general instructions for both the interviewers and respondents. It sets the context for the survey and also it shows the survey covers the United Republic of Tanzania.

2. SCREENING: Included preliminary questions designed to determine if the respondent or household is eligible to participate in the survey. It checks for core criteria such as involvement in agricultural activities.

3. START INTERVIEW: The introductory section where basic details about the interview are recorded, such as the date, location, and interviewer's information. This helped in the identification and tracking of the interview process.

4. HOUSEHOLD MEMBERS AND HOLDER IDENTIFICATION: Collected information about all household members, including age, gender, relationship to the household head, and the identification of the main agricultural holder. This section helped in understanding the demographic composition of the agriculture household.

5. FIELD ROSTER: Provided the details of the various agricultural fields operated by the agriculture household. Information includes the size, location, and identification of each field. This section provided a comprehensive overview of the land resources available to the household.

6. VULI PLOT ROSTER: Focused on plots used during the Vuli season (short rainy season). It includes details on the crops planted, plot sizes, and any specific characteristics of these plots. This helps in assessing seasonal agricultural activities.

7. VULI CROP ROSTER: Provided detailed information on the types of crops grown during the Vuli season, including quantities produced and intended use (e.g., consumption, sale, storage). This section captures the output of short rainy season farming.

8. MASIKA PLOT ROSTER: Similar to Section 4 but focuses on the Masika season (long rainy season). It collects data on plot usage, crop types, and sizes. This helps in understanding the agricultural practices during the primary growing season.

9. MASIKA CROP ROSTER: Provided detailed information on crops grown during the Masika season, including production quantities and uses. This section captures the output from the main agricultural season.

10. PERMANENT CROP PRODUCTION: Focuses on perennial or permanent crops (e.g., fruit trees, tea, coffee). It includes data on the types of permanent crops, area under cultivation, production volumes, and uses. This section tracks long-term agricultural investments.

11. CROP HARVEST USE: In this, provided the details how harvested crops are utilized within the household. Categories included consumption, sale, storage, and other uses. This section helps in understanding food security and market engagement.

12. SEED AND SEEDLINGS ACQUISITION: Collected information on how the agriculture household acquires seeds and seedlings, including sources (e.g., purchased, saved, gifted) and types (local, improved, etc). This section provided insights into input supply chains and planting decisions based on the households, or head.

13. INPUT USE AND ACQUISITION (FERTILIZERS AND PESTICIDES): It provided the details of the use and acquisition of agricultural inputs such as fertilizers and pesticides. It included information on quantities used, sources, and types of inputs. This section assessed the input dependency and agricultural practices.

14. LIVESTOCK IN STOCK AND CHANGE IN STOCK: The questionnaire recorded the types and numbers of livestock held by the household simply livestock population (cattle, goat, sheep, pig, and poultry, etc) , including any changes in stock due to births, deaths, sales, or purchases. This section helps in understanding livestock dynamics and economic value.

15. LIVESTOCK PRODUCTION COSTS: Provided data on the costs associated with livestock production, including expenses for feed, veterinary services, housing, and labor. This section helps in assessing the economic viability of livestock farming.

16. MILK PRODUCTION: This section captured dairy farming activities. Collected information on milk production, including the types of animals producing milk, quantities produced, and how the milk is used (e.g., consumption, sale).

17. EGG PRODUCTION: This section assessed poultry farming and its contribution to household nutrition and income, included the details of production of eggs by type of chicken, number of laying, quantities of eggs produced, and their uses.

18. OTHER LIVESTOCK PRODUCTS: This section provided a complete picture of livestock contributions beyond meat and dairy. It focused on other products obtained from livestock, such as hides, skin, hives, wool, and manure etc. It includes quantities produced and uses.

19. AQUACULTURE PRODUCTION: Data collected on aquaculture activities, included types of aquatic species farmed, production methods, quantities produced, and uses. This section assessed the role of fish farming in household economies.

20. LABOR: This section helps in understanding labor dynamics and contributions that is information on labor used in agricultural activities, included both household and hired labor. It also looks at the gender distribution of labor.

21. OTHER ECONOMICS: Details other economic activities related to agriculture, such as off-farm income, remittances, and other sources of revenue. This section provides a holistic view of household economic activities and diversification.

22. FARM REGISTRATION: This part, provided the information on the legal status and registration of farms, including certifications and compliance with agricultural regulations. This section assessed formal recognition and regulation of farming activities mostly in large scale farms.

23. END OF INTERVIEW: Show the concluding remarks and any final questions to wrap up the interview. This section ensured all necessary information that has been collected and provided an opportunity for respondents to add any additional comments.

Data Processing

DATA EDITING

The data processing and data editing phases were critical components of the Annual Agriculture Sample Survey for the agriculture year 2022/23. These phases ensure that the collected data is of high quality, consistent, coherent, and ready for analysis and reporting. The technical team responsible for these tasks included members from the National Bureau of Statistics (NBS), the Office of the Chief Government Statistician (OCGS), Agricultural Sector Lead Ministries (ASLMs), and academia, with technical support from FAO experts at various levels.

A. Data Processing

A.1. Data Entry:
- Enumerators entered data directly into tablets during interviews, eliminating the need for a separate data entry activity. This method minimized errors associated with manual data entry. Data collected in the field was periodically synchronized with a central database, ensuring that the information was securely stored and readily accessible for processing.

A.2. Data Cleaning:
- Upon synchronization, the data underwent initial automated checks to identify and flag obvious errors, such as missing values, out-of-range responses, and inconsistencies.
- Technical staff conducted a manual review of flagged entries, correcting errors based on predefined rules and protocols. This step ensured that all data was accurate and complete before further processing.

A.3. Data Integration:
- Data from different sections of the questionnaire (e.g., household information, crop production, livestock data) were integrated into a unified dataset. This process involved matching and merging records to ensure consistency across all sections by data scientists/ data programmers.
- The technical team harmonized data formats and units of measurement to ensure consistency. This step was important for maintaining coherence in subsequent analyses.

B. Data Editing

B.1. Consistency Checks:
- The data editing phase included rigorous checks for internal consistency within the dataset. This involved ensuring that related variables were logically consistent (e.g., the number of chicken reported matched the eggs production data).
- The team conducted cross-sectional checks to verify consistency across different sections of the questionnaire. For example, crop production data were cross-referenced with input use and labor data to identify and correct discrepancies.

B.2. Outlier Detection and Treatment:
- Statistical techniques were employed to identify outliers in the dataset. Outliers could indicate data entry errors or exceptional cases that required further investigation.
- Identified outliers were validated through additional checks by using STATA program or, if necessary, follow-up with the respondents. This ensured that the outliers were genuine and not due to errors.

B.3. Imputation of Missing Data:
- For instances where data was missing, the team used imputation techniques to estimate the missing values. Imputation methods included statistical techniques such as mean substitution, regression imputation, or hot-deck imputation, where necessary. All imputed values were documented by do files (STATA files). This transparency ensured that subsequent analyses accounted for the imputed data appropriately.

B.4. Data Validation:
- The dataset was validated against external data sources, such as previous surveys, administrative records, and satellite imagery (limited), to ensure accuracy and reliability.
- The validation process included a feedback loop where any identified issues were communicated back to the data collection teams for clarification and correction.
- Technical online meetings between FAO, NBS, OCGS and ASLMs related to data validation were conducted professionally to ensure accountability of data along the value chain.

C. Statistical Disclosure Control (SDC)
- Microdata are disseminated as Public Use Files under the terms indicated in Appendix A of the NBS Dissemination and Pricing Policy (https://www.nbs.go.tz/publications/policies-and-legislations). These access conditions are also indicated in the "data access" secion below.

- Statistical Disclosure Control (SDC) methods have been applied to the microdata, to protect the confidentiality of the individual data collected. These methods include: i) removal of information that may directly identify a respondent (name, address, etc.), ii) grouping values of some variables into categories (e.g. age), iii) limiting geographical information to the region level or higher, iv) suppression of some data points for variables that, in combination with others, may pose a relevant risk of identification of a statistical unit, v) adding noise to continuous variables, vi) censoring the highest values (top-coding) and replacing them with less extreme values from other respondents, or vii) rounding numerical values.
- Users must be aware that these anonymization or SDC methods modify the data, including suppression of some data points. This affects the agregated values derived from the anonymized microdata, and may have other unwanted consequences, such as sampling error and bias. The impact of anonymization is generally stronger on the smaller subpopulations (lower frequencies). For instance, data from large-scale farms are often more distorted than data from agricultural households as result of the sdc process, because large-scale farms appear in smaller number in the smaple than the agricultural households.

D. Continuous Improvement
- After the completion of the survey, the entire process was reviewed to identify areas for improvement. Feedback from all team members and stakeholders was gathered to refine the methodologies and protocols for future agriculture surveys in series under 50x20230 initiatives.
- Detailed documentation of all processes, decisions, and methodologies was maintained. This documentation served as a reference for future surveys and contributed to the transparency and re-producibility of the survey process.

Access policy

CONFIDENTIALITY
1. Confidentiality Ensuring the confidentiality of respondents is paramount not only in the Annual Agriculture Sample Survey for the agriculture year 2022/23 but also for all individual data collected by NBS/OCGS for statistical purposes. The UN Fundamental Principles of Official Statistics (http://unstats.un.org/unsd/dnss/gp/FP-New-E.pdf) indicate, under principle 6, that "individual data collected by statistical agencies for statistical compilation, whether they refer to natural or legal persons, are to be strictly confidential and used exclusively for statistical purposes". Protecting respondents' privacy fosters trust, encourages participation, and upholds legal and ethical standards. 2. Legal Framework and Agreements (i) National Statistics Act, [Cap 351 R.E 2019] The confidentiality of respondent data is protected under the National Statistics Act Cap 351 R.E 2019. This legislation mandates that all personal data collected through surveys be kept confidential and used solely for statistical purposes. The Act includes provisions for penalties against individuals or organizations that breach confidentiality agreements, ensuring strict adherence to privacy standards. (ii) Data Protection and Privacy Regulations: The survey adheres to national data protection and privacy regulations, which outline specific requirements for the handling, storage, and sharing of personal data. These regulations ensure that respondent information is not disclosed without consent. Additionally, respondents were briefed on the confidentiality and were required to listen to the consent information and confirm their understanding and agreement before participating in the survey. Confidentiality Agreements: All enumerators and other staff along the value chain involved in the data collection were required to sign confidentiality agreements. These agreements legally bind them to protect the privacy of respondents and prohibit the unauthorized sharing of data. 3. Instructions for Data Access: (i) Restricted Access: Access to the survey data is restricted. Only authorized personnel, who have undergone necessary training on data confidentiality, are allowed to handle the raw data. In addition, access levels are assigned based on roles, ensuring that individuals only have access to the data necessary for their specific tasks. For example, enumerators have access to the data they collect, while analysts have access to aggregated datasets. (ii) User Agreements for Data Access: Users who wish to access the survey data online must formally agree to specific terms and conditions (must sign it) to protect the confidentiality of respondents. This Data Use Agreement (DUA) outlines the permissible uses of the data, restrictions on sharing, and requirements for data security. The Non-Disclosure Agreement (NDA) legally binds data users to maintain the confidentiality of the data and to not disclose any personally identifiable information. (iii) Data Anonymization: Before any data is shared or published, it undergoes an anonymization process (Statistical Disclosure Control). This includes removing or masking personally identifiable information (PII) such as names, addresses, GPS coordinates and contact details. Among other measures, geographic information is limited to the region level or higher, to protect individual respondents from identification in the published results. (iv) Data Security Measures: Data is stored on secured servers with robust encryption protocols to prevent unauthorized access. NBS, OCGS, and FAO have the survey's data secured on their respective servers. Physical and digital security measures are implemented to protect the data from breaches. (v) Training and Awareness: All personnel involved in the survey process undergo comprehensive training on data confidentiality, emphasizing the importance of protecting respondent information. Continuous awareness programs and refresher training sessions were conducted to keep staff updated on best practices and legal requirements related to data confidentiality.

ACCESS CONDITIONS
The dataset has been anonymized and is available as a Public Use Dataset. It is accessible to all for statistical and research purposes only, under the following terms and conditions, as per Appendix A of the NBS Dissemination and Pricing Policy

(https://www.nbs.go.tz/publications/policies-and-legislations):

1. The data and other materials will not be redistributed or sold to other individuals, institutions, or organizations without the written agreement of the National Bureau of Statistics.
2. The data will be used for statistical and scientific research purposes only. They will be used solely for reporting of aggregated information, and not for investigation of specific individuals or organizations.
3. No attempt will be made to re-identify respondents, and no use will be made of the identity of any person or establishment discovered inadvertently. Any such discovery would immediately be reported to the National Bureau of Statistics.
4. No attempt will be made to produce links among datasets provided by the National Bureau of Statistics, or among data from the National Bureau of Statistics and other datasets that could identify individuals or organizations.
5. Any books, articles, conference papers, theses, dissertations, reports, or other publications that employ data obtained from the National Bureau of Statistics will cite the source of data in accordance with the Citation Requirement provided with each dataset.
6. An electronic copy of all reports and publications based on the requested data will be sent to the National Bureau of Statistics.

The original collector of the data, the Tanzania NBS, and the relevant funding agencies bear no responsibility for use of the data or for interpretations or inferences based upon such uses.

CITATION REQUIREMENTS
Tanzania National Bureau of Statistics. Annual Agriculture Sample Survey 2022/23 (AASS 2023), Version 1.1 of the public use dataset (June 2024), available at the National Data Archive: (https://www.nbs.go.tz/tnada/index.php/home).

ACCESS AUTHORITY

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PRODUCERS

Name	Abbreviation	Affiliation	Role
National Bureau of Statistics	NBS	Government of Tanzania	Documentation of the study
Office of the Chief Government Statistician of Zanzibar	OCGS	The Revolutionary Government of Zanzibar	Documentation of the study
Food and Agriculture Organization	FAO	United Nations	Technical assistance/Metadata adapted for FAM

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Food and Agriculture Organization	FAO	United Nations	Technical assistance/Metadata adapted for FAM

Data Dictionary

Data file	Cases	Variables
AASS2023	0	46
aquaculture	0	13
crop_use	0	23
external_labor_activities	0	14
field	0	7
household	0	25
inputs	0	23
items_services	0	9
masika_use	0	7
masikacrop	0	33
masikaplot	0	36
otherproducts	0	15
permanent_crop	0	20
seeds	0	25
vuli_use	0	7
vulicrop	0	32
vuliplot	0	36