

PILOT AGRICULTURE INTEGRATED SURVEY

Chitwan, Nepal

2019



STATISTICAL REPORT (Major Findings)



Government of Nepal
Ministry of Agriculture and
Livestock Development



Government of Nepal
National Planning Commission
Central Bureau of Statistics



Food and Agriculture
Organization of the
United Nations

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July 2020, Kathmandu, Nepal

Note for the readers

Sufficiently precise estimates have been obtained for major characteristics covered in the survey. However, as a universal nature of a pilot study, this survey is mainly to test research protocols, data collection instruments, sample requirement strategies, and other research techniques in preparation for a full-fledged AGRIS program. Consequently, users are requested to use the outputs with caution considering these fundamental assumptions inherent in the pilot survey.

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FOREWORD

It is my pleasure to present the final report of sample survey conducted as a pilot program in Chitwan district under Agriculture Integrated Survey (AGRIS) project. Ministry of Agriculture and Livestock development (MoALD) and Central Bureau of Statistics (CBS) has been undertaking this project in Nepal since 2019 with the technical and financial support from Food and Agriculture Organization (FAO) of the United Nations. This project is as an exemplary collaboration among the major stakeholders of Agriculture and Livestock Statistics in Nepal aim to address the existing limitations in agriculture statistics management.

The survey was conducted with an objective to measure key indicators related to area and production of agriculture commodities as well as livestock population and their primary products. Additionally, socioeconomic characteristics of agriculture holdings and environmental parameters of their proximity are included. Learnings of this work will be instrumental in improving our data management system. In addition, experiences from this operation will complement in developing statistically accepted methodology customized to our context that can be replicated in other districts and local bodies for the full-fledged implementation of AGRIS program in Nepal.

I acknowledge Joint Secretary and Division Chief of Planning and Development Cooperation Coordination Division, Dr. Rajendra Prasad Mishra for his continuous guidance, monitoring and supervision of the program. Likewise, chief of statistics section Mr. Ram Krishna Regmi and officers: Ms. Shrijana Timilsina, Ms. Padma Pokhrel, and Mr. Netra Prasad Bhatta are all admired for their sincere dedication. My special thanks go to Mr. Nebil Lal Shrestha, Director General and Mr. Hem Raj Regmi, Deputy Director General of CBS for their leadership in organizing and concluding this painstaking survey in a coordinated manner. I conjointly would like to thank Dr. Mahesh Subedi and, Mr. Badri Karki, Directors of the Agriculture and Livestock Census and Survey Section of the CBS as well as other CBS staff for their vital contribution. I grateful to FAO headquarter as well as country office for their generous financial and technical support.

This report will be useful for policy makers, researchers, academicians and other users. I welcome comments and suggestions for improvement in future.

Rajendra Prasad Bhari
Secretary

July 2020



Government of Nepal
National Planning Commission
Central Bureau of Statistics
Thapathali, Kathmandu

PREFACE

There is growing need for more, better, cheaper and timely statistical data on the agriculture and rural sector. The scarcity of high-quality and timely national, provincial and local level agricultural data to inform decision-making across developing countries is bitter but obvious reality, impeding the efforts of governments to form and implement good policies, promote investment, target programs, and measure progress. Realizing the urgency of long-term investment to create sustainable data system, Food and Agriculture Organization (FAO) of the United Nations has recently implemented an Agricultural Integrated Survey (AGRISurvey) Program in some member countries like Nepal as an integrated system of agriculture surveys to accelerate and improve the collection and dissemination of data on agriculture production as well as technical, economic, environmental and social dimensions of agriculture holdings. It is based on modular structure synchronized with the Agriculture Census and operates over 10-year cycle laying the foundations for the creation of an efficient agricultural statistical system.

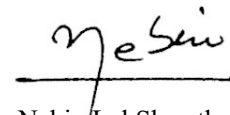
With technical and financial assistance of FAO, the Ministry of Agriculture and Livestock Development (MoALD), and the Central Bureau of Statistics (CBS) have jointly conducted a pilot survey in the framework of AGRIS Program in Chitwan district with its affluence of agricultural diversity. It has adopted Production Method and Environment (PME) Module as rotating module along with Core Module for the pilot study as developed by FAO. Along with the piloting of the AGRISurvey Program initiated by FAO, the objective of the survey is to measure key indicators related to area and volume of agriculture production capturing the social, economic and technical dimensions of the holdings as well as providing data to monitor some farm-based indicators of Sustainable Development Goals. The statistical unit of the survey is agriculture holdings satisfying the certain specified conditions. The survey has adopted a dual approach of taking both types of agriculture activities-registered (as commercial farming) and non-registered activities operated in household and non-household sectors. Information on the household sector is collected through a representative sample of agricultural households selected with a stratified two-stage sampling design whereas a stratified simple random sample of non-household farms is selected and interviewed. The result is the outcome of collaborative efforts of all the stakeholders involved in the survey. The successful completion of the survey has also paved the way for the full-fledged implementation of AGRISurvey Program in Nepal. The results from the survey will be useful to planners, policy makers, researchers and other users.

It is my pleasure to present the final report of the survey in this shape and I am thankful to all the persons and organizations who have provided their precious support and contribution to make the Pilot survey a success. I am extremely grateful to Mr. Hemraj Regmi, Deputy Director General of the CBS for his overall guidance and management of the survey. Dr. Mahesh Kumar Subedi and Mr. Badri Kumar Karki, Directors of the Agriculture and Livestock Census and Survey Section of the

CBS deserve special thanks for their prime role in the overall survey implementation. I greatly admire the effort made by the MoALD team lead by Mr. Ram Krishna Regmi, Senior Statistician from the beginning of the survey operation. I would like to thank Statistics Officers Mr. Chet Bahadur Roka, Kishor KC, Ganesh Prasad Phuyal, Nirajan Sharma, and Computer Officer Raju Pokharel, Statistics Assistant Mr. Suroj Ghaju of the CBS and also, Agriculture Economist Ms. Shrijana Timilsina, Crop Development Officer Mrs. Padma Pokharel, and Soil Scientist Mr. Netra Prasad Bhatta, of MoALD. Similarly, the team of Statistics Office, Chitwan and all the enumerators deserve thanks for their contribution in the fieldwork of the survey operation.

I would like to express my sincere thanks to Mr. Pujan Adhikary, national consultant, for his support in questionnaire design and field operation, and Mr. Shanker Lal Shrestha, national consultant, for his effort in data analysis and writing this report. I acknowledge the generous financial and technical support of the FAO. Special thanks go to all respondents of Chitwan for providing information to the field staff of the survey. Without their generous support, this survey would not have been conducted efficiently. Finally, I would like to express my gratitude to the Secretary of MoALD and Chairperson of Steering Committee and also to other members of the Steering Committee, Technical Committee and all other well-wishers whose guidance and suggestions contributed to make this survey a grand success.

July 2020
Kathmandu



Nebin/Lal Shrestha
Director General
Central Bureau of Statistics

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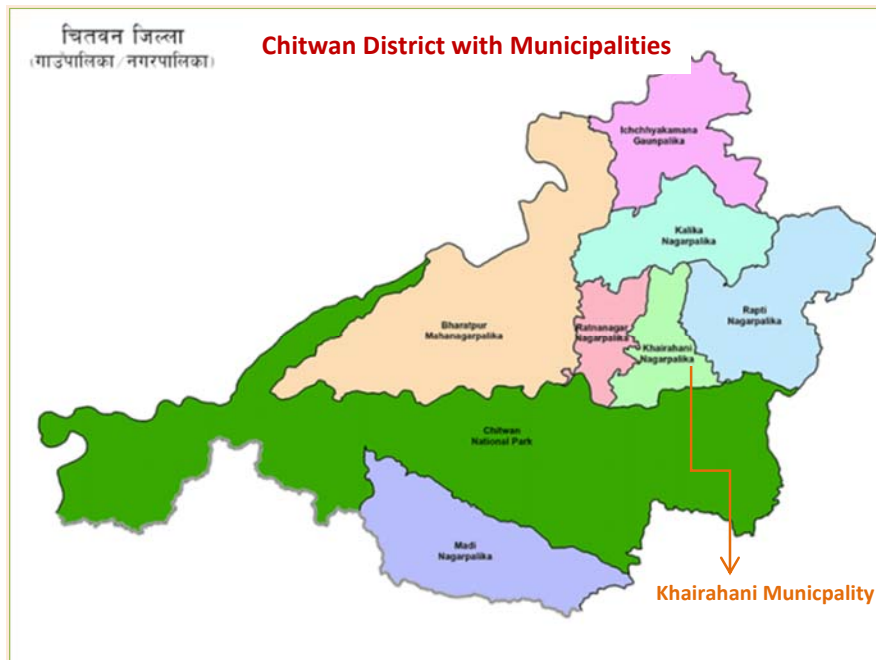
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ABBREVIATIONS

AGRIS	Agricultural Integrated Survey
MoALD	Ministry of Agriculture and Livestock Development
CBS	Central Bureau of Statistics
FAO	Food and Agriculture Organization
PME	Production Methods and Environment
SDG	Sustainable Development Goals
PSU	Primary Sampling Unit
EA	Enumeration Area
SSU	Secondary Sampling Unit
MTOT	Master Training of Trainer
CAPI	Computer Assisted Personal Interview
CSPRO	Census and Survey Processing System
IT	Information Technology
NPHC	National Population and Housing Census
NSCA	National Sample Census of Agriculture

MAP OF SURVEY DISTRICT



PART-I

INTRODUCTION AND METHODOLOGY

1.1 Background

The Central Bureau of Statistics (CBS) and the Ministry of Agriculture, and livestock Development (MoALD) are the two major agencies in Nepal for the collection and dissemination of agricultural statistics. Primarily, the CBS undertakes decennial agriculture census and other agriculture holding and farm level agriculture surveys. Whereas, the MoALD is involved in collecting and publishing current agricultural statistics such as area under crops and its yield, livestock production (milk, meat, wool and egg production) and fisheries production. These data are based on the field reports of the extension workers and is mainly used for forecasts and early warning purposes. But there is no any regular annual agriculture survey for production of current agricultural statistics in Nepal. Realizing the importance of such surveys, the Ministry of Agriculture and Livestock Development (MoALD) and the Central Bureau of Statistics (CBS) have jointly conducted a Pilot Agricultural Survey in the framework of an Agricultural Integrated Survey (AGRISurvey) program in Chitwan district with the technical and financial assistance from the Food and Agriculture Organization (FAO). The AGRIS methodology is developed by FAO in the context of the Global Strategy to improve Agricultural and Rural Statistics.

The Agricultural Integrated Survey (AGRISurvey) is a cornerstone in the establishment of an efficient agricultural statistical system. It is a response to the need for better, cost-effective and timely statistical data in the agricultural and rural sector. AGRISurvey is a farm-based modular 10-year survey programme designed as a cost-effective tool for national statistical agencies and agricultural ministries to accelerate the production of quality disaggregated data on the technical, economic, environmental and social dimensions of farm-based production (including small-holder farms). This represents a new and cost-effective approach to agricultural data collection, aimed to build comprehensive rural information systems. It consists of a Core Module, administered on an annual basis, supplemented by four thematic Rotating Modules (Economy, Labour, Machinery, equipment, assets, and Production methods & environment).

As per the AGRIS framework, the Pilot survey includes the yearly based Core module and a Rotating module on Production Methods and Environment (PME Module). The Core module covers general characteristics of the holdings, crop and livestock production and their seasonality, farm productivity, crop production methods, livestock production methods, fisheries, forestry, farm labour, household dwelling, assets shocks and coping mechanisms, and access to markets and information, and the PME Rotating module covers key data necessary for an analysis of the costs of production for different types of agricultural production methods and to assess the impact of agricultural activities on the environmental, social and economic sustainability of farming.

1.2 Objectives of the Survey

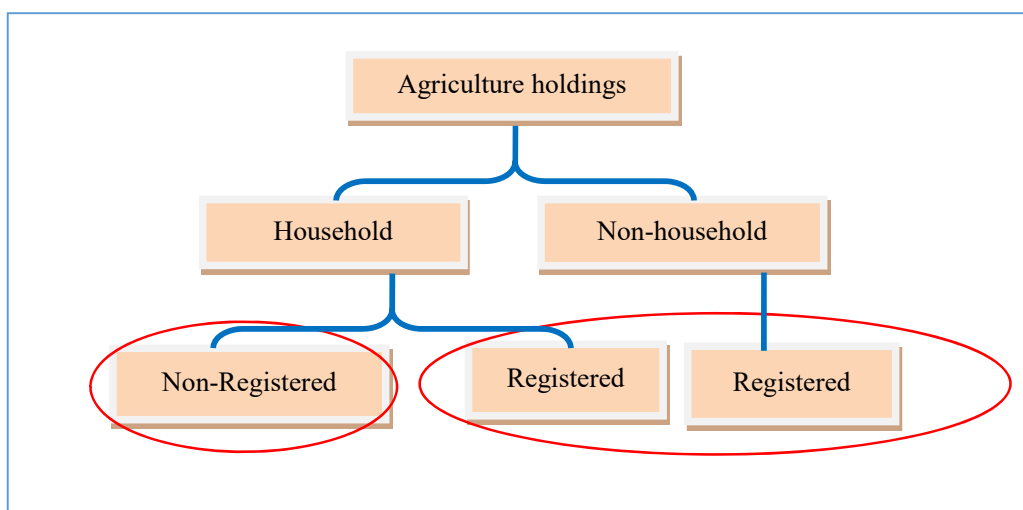
The main objective of the survey is to measure key indicators related to area and volume of agriculture production along with social, economic and technical dimensions of the holdings. In addition, it collects key data necessary to assess the impact of agricultural activities on the environmental, the social and economic sustainability of farming, GHG emissions, as well as provides data to monitor farm-based SDG indicators, especially the indicators 2.3.1; 2.3.2; 2.4.1; and 5. a.1.

1.3 Scope of the Survey

The Pilot Agricultural Integrated Survey (AGRISurvey) that has been conducted in one district (Chitwan) of Nepal has adopted a dual frame approach of taking both types of agriculture activities – registered and non-registered activities operated in household and non-household sectors.

The agriculture activities in non-household sector are normally registered in a related government agency and are commercial in nature. However, the household sector has both registered and non-registered agriculture activities. The household has to register any agriculture activities with a commercial purpose in a related government agency. But, in practice many households have been operating small size of commercial agriculture activities without registration. Even though, the purpose of the Pilot AGRISurvey in Chitwan district was to capture information of commercial and non-commercial agriculture holdings separately, the survey has not used the terms - commercial and non-commercial agriculture holdings due to above mentioned difficulties. Instead the survey grouped the holdings in registered and non-registered holdings as follows.

Chart 1: Frame for the Pilot AGRISurvey 2019, Chitwan.



A list of registered agriculture activities from both household and non-household sectors was prepared and it was considered as Registered Holdings. The households which have usual agriculture activities that are not registered at any government agencies were considered as Non-registered Holdings.

1.4 Statistical Unit

The statistical unit of the survey is the agriculture holding. An agricultural holding is an economic unit of agricultural production under single management comprising all livestock and poultry kept, and all land used wholly or partly for agricultural production purposes. Small agricultural operations beyond the specified criteria of holding were excluded from the survey. A holding was considered to be an agricultural unit satisfying any one of the following conditions:

- 1) having area under crops greater than or equal to eight dhur (0.01355 hectares)
- 2) or - keeping one or more head of cattle or buffaloes;
- 3) or - keeping five or more head of sheep or goats or pigs;
- 4) or - keeping 20 or more poultry.

1.5 Coverage

Based on the basic objective of the survey, the survey covered a wide range of following topics on Core module: identification and general characteristics of the holding, characteristics of the holders and managers, agricultural productions – crops, livestock, production methods, fishery, agroforestry, household income other than agriculture, access to information, production shocks by disasters and weather extremes and coping mechanisms, farm labor, housing dwelling and assets. Further, the Production method and environment module incorporates the topics like use of natural resources, crop production methods, livestock production methods, agroforestry, access to and use of information services, infrastructure and communal resources, greenhouse gas and environmental issues, adaptation to climate change and mitigation strategies and waste management.

1.6 Time Reference

The reference period of an agriculture survey is taken usually the last agricultural year or past 12 months preceding the day of interview with the agriculture holders. In this case, the time reference for the Pilot survey was Fiscal year 2075-76 BS (17 July 2018 to 16 July 2019). However, it also has a specific reference date for selected data items, in particular relating to livestock. For livestock, both the day of enumeration and the fiscal year were used based on the question asked.

1.7 Sampling design

1.7.1 Overview

In the framework of the Agriculture Integrated Survey (AGRISurvey) programme, the pilot agricultural survey covers agricultural holdings in both household and non-household sectors in the district of Chitwan. At the same time, one of the local units (Khairahani Municipality) is also taken as a separate domain to produce estimates at local level. The Khairahani Municipality is one of the seven Palikas (local Governments) in the Chitwan district.

Information on the household sector was collected through a representative sample of agricultural households selected with a stratified two-stage sampling design. The sampling frame of the primary sampling units (enumeration areas) was developed with stratification information using data from the Nepal Population Census 2011. Listing operations were implemented in the selected EAs for selecting a sample of agricultural households (secondary sampling units).

The survey also has interest on commercial agricultural holdings that comprise by definition all non-household farms. As most of these farms are registered in professional and government agencies, related registers were used as primary source to build a sampling frame that was further updated through field operations. A stratified simple random sample of commercial farms were selected and interviewed.

The pilot survey was aimed to produce reliable estimations at the district level as well as for Khairahani municipality in particular at local level. The observations are the agricultural holdings as recommended and defined by FAO. The final sampling units are the agricultural households in the households' sector and the registered commercial farms in the non-household sector.

1.7.2 Survey of non-registered agricultural households

As recommended by FAO, a two-stage sampling design was used for the survey of agricultural households. The primary sampling units (PSU) are the enumeration areas (EA) and the secondary sampling units are the agricultural households at the selected EAs.

1.7.2.1 Sampling Frame

The frame of the Primary Sampling Unit (PSU) was developed using the data of the National Population and Housing Census 2011 of Nepal. This frame basically consisted of the complete list of all enumeration areas in the district with suitable stratification variables at EA level on the number of agricultural households, the total agricultural area and the number of livestock.

A representative sample of PSU was selected and a complete listing of all agricultural households was performed in each of them to build the sampling frames of SSU.

1.7.2.2 Stratification Sample Allocation

The municipalities (Gaunpalika/Nagarpalika) as per the federal structure of the country were considered as main strata and the sample of PSU was first allocated in them through the Neyman optimal allocation procedure. Then all PSU in each municipality was stratified through an optimal multivariate stratification using the total agricultural land and total livestock as stratification variables. The allocated sample of PSU in each municipality was then allocated in these intra municipality strata through an optimal multivariate allocation.

1.7.2.3 Sample Size

The sample size for the district was calculated using a population coefficient of variation of the agricultural land of households in the district. The sample size required for the district was 642 agricultural households corresponding to a minimum sample of 52 EAs. It was then decided to allocate an additional sample of 17 EAs to the municipality of Khairahani to allow reliable estimations in that municipality. The total sample size for the Khairahani municipality was then 315 agriculture households from 21 EAs. In total, 897 non-registered agriculture households were enumerated in the district.

1.7.2.4 Sample Selection

In each stratum, the sample of EA was selected using a systematic probability proportional to size approach. In each sampled EA, after the listing operation, a sample of 12 agricultural households was selected by systematic random sampling method with an exception of Khairahani where 15 agricultural households were instead selected.

1.7.3 Survey of Registered Commercial Farms

As usually recommended for this category of holdings, we adopted a stratified simple random sampling design without replacement. The first stratification criterion is the agricultural activity of the holding. A list of all registered agriculture activities by 12 categories (cattle, buffalo, pig, goat, poultry, vegetable, cereal crops, fruits, fishery, nursery, mushroom, and bee farming) along with area and number of livestock were collected from secondary data sources like Agriculture Knowledge Centre, Cottage Industry office, Tax office, and municipality offices. This secondary data was re-verified by direct phone calls and field visits. Depending on the number of holdings in the first level

stratum either a second level stratification is performed using available information on the size of holdings (area, number of livestock, etc.) or the sample is selected directly.

1.7.3.1 Sample Size

Given the diversity of the activities with different measures of size and data quality, it is not possible to calculate the sample size based on the precision of a variable of interest. It has used the sample size necessary for estimating any population proportion, e.g. proportion of registered commercial holdings practicing each type of activity (vegetable, cattle, poultry, fruits, etc.). For reliable estimates at the district (Chitawan) level, a minimum sample of 307 commercial farms was necessary.

1.7.3.2 Stratification, Sample Allocation and Selection

The first stratification criterion is the agricultural activity of the holding (crop production, livestock farm, etc.). The sample was allocated proportionally in these strata and adjusted to ensure that at least two units is allocated for each activity.

A second level stratification was performed in some activities depending on the number of holdings and the existence a stratification variable of good quality.

R Package ‘stratification’ was used for constructing optimal strata with a generalized Lavallee-Hidiroglou (1998) method and Neyman allocation. A simple random sampling without replacement was used for sample selection in each final stratum.

1.8 Field Work

1.8.1 Training of field staff

A five-day Master Training of Trainers (MToT) was conducted before the enumerator's training. Eight officials from CBS and MoALD were the participants in the training program that was conducted from 29 Sep to 3 Oct 2019. The trainers were not only capacitated for the pilot survey but also for their readiness for upcoming national level AGRIS survey.

The main training for the enumerators and supervisors was commenced from October 15 to October 21, 2019 in Bharatpur, Chitwan. It was provided an intensive and rigorous training along with field test and mock interviews during the training programme. Altogether 16 enumerators and 4 supervisors have successfully completed the training. The staffs were deployed in the field work immediately after completion of the training. The field staff composed of 12 temporarily hired persons and 8 staff from the Statistics Offices at Chitwan and Makawanpur.

1.8.2 Data Collection

The survey field work was conducted from 21 October 2019 to 8 December 2019 for approximately 35 working days. A direct face-to-face interview method using Computer Assisted Personal Interview (CAPI) was used for data collection with 16 enumerators and 4 supervisors. Although, the CAPI method was not new in CBS, it was used for the first time during an agriculture survey conducted from CBS.

The data collection for non-registered agriculture holdings was performed in two stages: in the first stage, a complete listing of agriculture holdings in the selected EA was prepared and then 15 agriculture holdings were selected using systematic random sampling in case of Khairahani

Municipality, whereas 12 agriculture holdings were selected in other six municipalities. In the second stage, an in-depth interview using CAPI method was performed in the selected households corresponding to agriculture holding. In parallel to enumeration of the non-registered holdings, the data collection in 307 selected registered agriculture farms was also administered using the CAPI questionnaire.

It was observed that about three hours was taken to complete the questionnaire and, on an average, 2.5 holdings per day were interviewed by each enumerator. Except one in non-registered and two in registered holdings, all the selected agriculture holdings were enumerated during the survey.

1.8.3 Supervision

To maintain the quality of the data, one supervisor for each 4 enumerators was assigned for the entire field work. In addition, the officers from CBS, MoALD, district offices of CBS and MoALD, and FAO also made frequent visits to the field work in order to supervise and quality checks to minimize errors and inconsistencies reported during the data collection period.

1.9 Questionnaire

The Core and PME modules are the two main questionnaires used in the survey. A single set of questionnaire in CAPI system is developed combining the two questionnaires. The questionnaire was developed as a country-specific based on the recommendation and guidelines of the AGRISurvey methodology. The questionnaire was finalized with necessary modifications and incorporating the feedback received from the pre-test and a series of interaction workshops with the stakeholders. The questionnaire is broadly divided in two parts: the Core Module and the Production Method and Environment (PME) Module. The core module – which is designed to be administered on an annual basis – is focused on the area and production of crop and livestock, whereas the PME module – expected to be conducted every five years – is focused on production practices at the agriculture holding and its consequences on environment and the social and economic sustainability of farming.

Apart from the main questionnaire, a listing form was developed for the collection of all the list of agriculture holding in the selected EA. It contains the name and address along with some characteristics of agriculture holdings, the size of agriculture land, number of livestock and poultry kept, etc. A similar listing form was also administered for listing the registered commercial agriculture holdings.

1.10 Data Processing

The enumeration of the Pilot Agriculture Integrated Survey was conducted by CBS using tablets with CSPro version as a CAPI method of choice. The supervisors were collected the filled-up questionnaires from enumerators using CAPIs in a flash drive in every second day and send to CBS through email and dropbox. Due to some technical reasons a central database server was not set up in the CBS to manage database online of the survey. The IT staff in CBS was responsible for compiling and managing the filled-up questionnaires received from the supervisors from the field. The supervisors were allowed to send the collected information to the IT staff in CBS after ensuring the completion of the questionnaires and thoroughly reviewing all the information captured in the tablet.

As a general practices in CBS, the CSPro (Census and Survey Processing) package was used for data management including the data editing and data cleaning of the survey. If some information were

found doubtful during data cleaning, data validation was performed by direct contacting the farmers through phone calls. Once the data quality was ensured, the data processing, tabulation, analysis and summarizations were mostly done using the statistical software package SPSS.

1.11 Analytical Domain

The survey was designed to provide district level and a municipality level (as a test for municipality level) estimates. The “Chitwan” district and one of the local units “Khairahani Municipality” are the two domains of the survey. The results provided in this report are the combination of registered and non-registered agriculture activities for district estimates. However, the estimates for Khairahani Municipality are provided only from the non-registered agriculture holdings because of inadequate sample size of registered holdings at municipality level.

1.12 Limitations of the survey

The sample design of the survey was based on the NPHC 2011. The sample frame and the EAs of the study area were not properly updated which may have some problems in sample design and the survey estimates. Due to recent changes in administrative boundaries of local bodies as per the federal system of Nepal there were problems in exact location of some household and non-household holdings. The address and status of many registered (commercial) holdings obtained from various administrative agencies were not accurate as existed in the field.

The survey conducted in the Khairahani Municipality with a representative sample design was a test and also a first experience to CBS to be prepared for conducting new surveys in 753 local government levels. Although the survey results are statistically significant, it lacks proper comparisons with an authentic official data – no authentic statistics of Khairahani was found for comparison.

The AGRIS approach and the modules were new to Nepal in agriculture statistics production, some shortcomings may have unknowingly included in any part of the survey design and implementation.

1.13 Lesson Learned

The followings are the lessons learned from the survey:

- Combining two modules takes a longer time in enumeration – average 3 hours.
- Many questions received null responses.
- A same sampling technique may not be a best fit for both core and rotating module - the rotating modules may need different sampling design than the core module.
- Needs more recent sample frame - a large variation in holding number is observed in some EAs. The current sample frame is derived from Population and Housing Census, 2011.
- Updating frame of the commercial holdings (registered holdings) from administrative records was the most challenging task.
- A clear demarcation of household and commercial (registered) activity is challenging – inclusion of many small scale registered agriculture activities which are supposed to be commercial in nature, but do not seem in practice.

- CAPI CSPro android version may not be the best choice for a long questionnaire like AGRISurvey – CAPI CSPro window or Survey Solutions could be better alternatives. The CAPI CSPro version used needs to scroll question by question – lacks scrolling by page to page.
- The EA maps are not fully compatible with the agriculture survey purposes.
- The 5-day enumerator training was not sufficient in considering the size and contents of the questionnaire.
- Working together two agencies in AGRIS program was a new experience of collaboration in implementation of such large scale survey and it was found useful to enhance the survey processes from the development of the questionnaires to producing reliable outputs.

1.14 Recommendations

- The survey questionnaire, combining two modules became heavy to respondents. Since many questions are found not relevant or null responded, the survey questionnaire can be down sized with further consultations with stakeholders.
- Since the production methods and the impacts of agriculture practices in environment could be similar in a community, the PME module could be administered separately with smaller sample size that may help to reduce the respondent’s burden and cost of the survey.
- Since many questions in non-commercial holding are not relevant to commercial holding, it would be good to make a specific questionnaire for commercial holdings.
- Further customization of questions related to loss and damage is needed to make more informative and to capture loss and damage before and after the crop harvest.
- The questionnaire should be reassessed to ensure the inclusion of relevant questions related to farm-based SDG indicators.
- An updated sampling frame of the non-commercial holdings and EA maps are needed well before the sampling design.
- A better mechanism is needed to update the list of the commercial holdings which was found more challenging in the Pilot survey. The frame of commercial farms need to be fully updated with key information on the overlap with the households’ farms
- A clear demarcation of household and commercial holdings is needed. The single criteria as registration in a government agency to become a commercial holding used in the Pilot survey was found not appropriate in real practice.
- Sampling errors are globally quite low at the district level and for some municipalities. However, estimates can still be improved with a larger sample size in the district.
- Municipality-level estimations would require a quite large sample and accordingly high operational costs.
- An update or alternative of CAPI CSPro enumeration is needed to ease the questionnaire fill-up process.
- A 10-day enumerator training with one field visit is required to properly train the field staff.

- Like as tabulation plans, a specific template for survey report (for each module) should be added to FAO's AGRISurvey toolkit for uniformity and to guide a better explanation of the survey outputs.

1.15 Conclusion

The Pilot Agriculture Integrated Survey is the 1st step towards the journey of strengthening current agriculture statistics of Nepal. As the objectives of the survey, it found to be a very effective tool for collecting multipurpose agricultural statistics and production of quality disaggregated data on the technical, economic, environmental and social dimensions of agricultural holdings. Despite the challenges encountered in the survey management and operation the experience gained and the lesson learned during the implementation of the pilot survey will be a great asset to CBS and MoALD for scaling up the survey at national level and to its institutionalization and sustainability.

1.16 Organization of the report

This report of "Pilot Agriculture Integrated Survey 2019, Chitwan" composed of three parts. The first part is the introductory section of the survey report. It presents the background, objectives of the study, scope of the survey, statistical unit, coverage, time reference, sampling design, field work, questionnaire, data processing, analytical domain, limitations of the study, lesson learned, recommendations, and conclusion.

Part two presents description of major findings of the survey for both district and municipality levels. In this section the description with figures and charts are provided for some key outputs of the survey for Chitwan district and Khairahani Municipality.

Part three provides the statistical tables of all important variables of the survey according to various sections of the questionnaire. The statistical tables provided in section three present detailed information of the survey results.

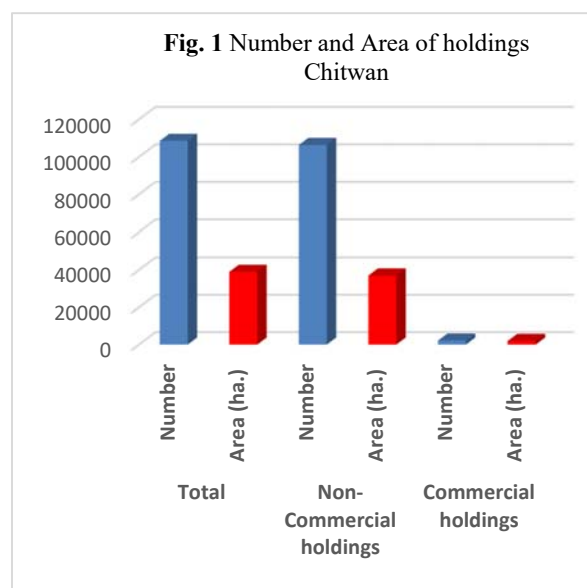
PART-II

MAJOR FINDINGS

2.1 Major findings of Chitwan District

2.1.1 Number and Area of Holdings (Table 1)

The Survey covered both agriculture holdings with land and holdings without land. Holdings with land are those cultivating 0.01355 hectares or more of agriculture land. Holdings without land are those which have one or more head of cattle or buffaloes or five or more head of sheep or goats or 20 or more poultry, and less than 0.01355 hectares of agriculture land under cultivation. In the pilot survey 2019, there has been reported 106800 holdings with land and 1770 holdings without land of total of commercial and non-commercial farming in Chitwandistrict. In the commercial farming, the survey reported 2154 holdings with land and 23 holdings without land and similarly, in the non-commercial farming reported 104646 holding with land and 1747 holding without land.



The number of holdings has 23 percent increased as compared to the National Sample Census of Agriculture (NSCA) 2011/12. In the NSCA 2011/12 the numbers of holdings were 88242 in the Chitwan district. This had raised 20328 holdings in the survey 2019. Combined with commercial and non-commercial holdings, estimated area of holdings stand to be 39008.3 hectares in the survey 2019. The area of holdings in the Chitwan has been decreased by 1623.3 hectares as compared to the NSCA 2011/12. Above aggregated area is come to be 1967.2 hectares in the commercial holdings and 37041.1 hectares as in the non-commercial ones.

2.1.2 Holding Size

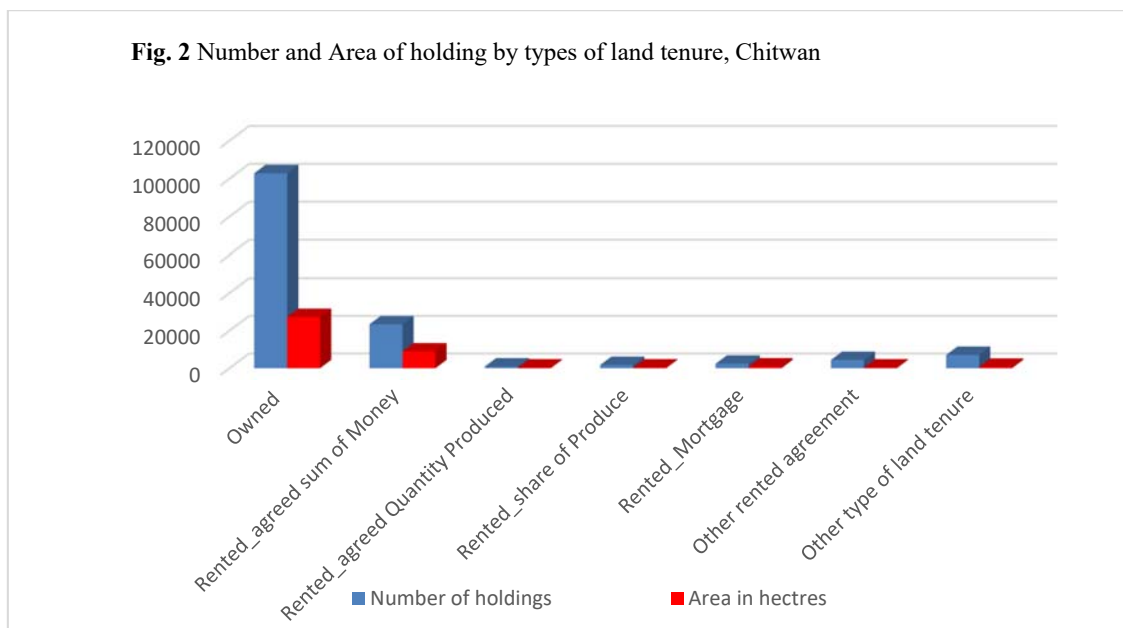
Another crucial indicator of agricultural sector can be regarded as an average holding size of the district in the given reference period. The 2019 survey found average size of holdings of Chitwan was came down at 0.36 hectares in the survey year which is 0.1 hectare lower than the district average size of holdings 0.46 hectares reported in NSCA 2011/12. The average holding sizes stood at 0.90 hectares for the commercial holdings while 0.35 hectares for non-commercial holdings in Chitwan.

2.1.3 Land Tenure (Table 2, 2.1)

The majority of holdings in Chitwan are operated by owners. According to the survey, 66 percent of land holdings are fully owned. A total of 32,377 holdings (30 percent) comprised land which is partly owned and partly rented. Only 3023 holdings (3 percent) operated are fully rented and 1419 holdings (1 percent) operated in other tenure form.

In all, 10982 hectares out of a total of 39008 hectares of operated land (i.e. 28 percent) is tenanted land and total of 70 percent of land is operated by owned.

The survey has reported that agreed sum of money is the most popular condition of rent practiced in Chitwan which is 73 % of rented holdings (32155). Similarly, 7.3% holdings operated land as condition of mortgage and 5.4% holdings operated land as condition of share of production.



The highest area being rented is 8952.3 hectares which is on the basis of agreed sum of money. Similarly, 918.4 hectares of land is operated through renting based on mortgage and 377.8 hectares land is operated through renting based on share of production.

2.1.4 Land Use (Table 3)

The survey reported that 33836 hectares (86.7 percent) out of 39008 hectares of land operated by agriculture holdings are agriculture land in Chitwan. While 5172 hectares (13.3 percent) are other land, covered by house/shelter, forest, pond, and useless land.

Most of the agriculture land is used for the cultivation of temporary crops - 30603 hectares in the district. The area under permanent crops are only 1784 hectares in the district.

2.1.5 Female's Ownership in Agricultural Land (Table 4)

According to the survey result, 42866 holdings (40.3 percent) out of 106393 holdings have reported ownership of female in agricultural land. The total area of agricultural land owned by female is 7406.4 hectares and the total number of females who owned agricultural land is 43898 in the district. It shows that average area of agricultural land owned per female is 0.17 hectare in Chitwan.

2.1.6 Temporary Crops (Table 16)

The major temporary crops produced in Chitwan are paddy, maize, wheat, mustard, potato and millet. As a survey result, 68239 holdings are engaged in paddy production during the reference period. Similarly, number of holdings engaged in maize, mustard, potato and wheat production are 70692, 49401, 45720 and 8653 respectively.

Table 2a. Temporary Crops

Temporary Crops	Total				
	Number of holdings	Area in hectare		Production in Metric Ton	Yield Rate (Mt./Ha)
		Planted	Harvested		
Paddy	68239	27421.6	27307.6	115714.1	4.2
Maize	70692	18826.5	18632.6	68920.1	3.7
Wheat	8653	2305.0	2269.1	6021.6	2.7
Millet	5906	498.8	495.2	726.7	1.5
Buck wheat	1929	393.0	393.0	439.0	1.1
Potato	45720	991.2	938.1	6365.9	6.8
Tomato	7224	159.4	158.6	3480.9	22.0
Mustard	49401	11530.2	11419.9	8735.1	0.8

The total harvested area and production of paddy reported in Chitwan are 27307.6 ha. and 115714.1 metric ton respectively. Its shows that theyield rate of paddy is 4.2 metric ton per hectare. However, in 2011/12 Agriculture census, the planted area of paddy was 36588.4 hectares (total of all types of paddy). Similarly, the harvested area, production and yield rate of maize are reported 18632.6. hectares, 68920.1 metric ton and 3.7 mt. ton/ha. respectively. The area under maize plantation reported was 20390.5 ha in 2011/12 Agriculture census. It is seen that the area of paddy and maize in Chitwan are decreased in 2019 as compared to the Agriculture census 2011/12.

The harvested area of wheat, mustard and potato are reported 2269.1 ha.,11419.9 ha., and 938.1 ha. respectively and the production of wheat, mustard and potato are reported 6021.6, 8735.1, and 6265.9 metric ton respectively in the reference period. However, in 2011/12 Agricultural census, the planted area of wheat, mustard and potato were reported 5063.6 ha., 8555.4 ha., and 1093.2 ha. respectively.

2.1.7 Use of Fertilizer (Table 17)

As per the survey result, it is seen that more than 95 percent paddy growers used chemical fertilizer and about 86 percent wheat growers used chemical fertilizer in Chitwan. Similarly, 89 percent maize growers used compost fertilizer in Chitwan.

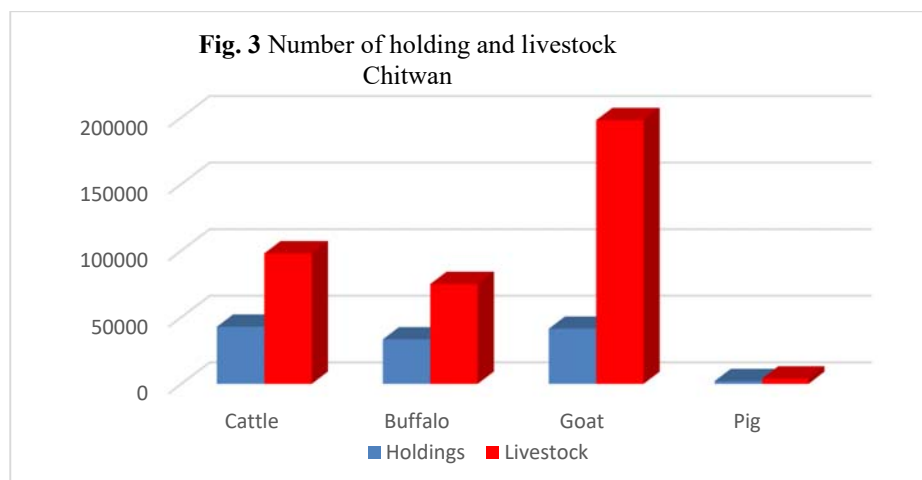
2.1.8 Permanent Crops (Table 21)

In the land use category, the area of land under permanent crops has increased from 1377.2 hectares in NSCA 2011/12 to 1784.2 hectare in the survey 2019 in Chitwan. The banana and mango are the major permanent crops planted in Chitwan. The result shows 11158 holdings have reported banana plantation on their holdings. The compact plantation area of banana is 1470.7 hectare in 2019 survey, whereas it was reported 523.1 hectare in 2011/12 Agriculture census in Chitwan. Similarly, the survey has reported that the area of compact plantation of mango is 87.7 hectares and in NSCA 2011/12 it was reported 74.3 hectare in the district. The result shows the production of banana and mango are reported 69882.5 mt. ton and 2615.5 mt. ton respectively in the reference period.

2.1.9 Livestock and Poultry (Table 26)

The survey estimated the total number of cattle, buffalo, goat and pig in Chitwan are 97944, 74873, 198025 and 4034 respectively. The number of chicken and duck are estimated 41,41,498 and 70,193

respectively in the reference period. As per the survey result the total number of cattle, buffalo, goat, pig and chicken are estimated as 94305, 74466, 190321, 3113 and 1310541 respectively in the non-commercial holdings and 3639, 407, 7704, 921 and 2830957 respectively in the registered commercial holdings. According to NSCA 2011/12, the total number of cattle, buffalo, goat, pig and chicken were estimated 71864, 77045, 238373 and 9710 and 2810327 respectively in the Chitwan district.



Total number of cattle on agriculture holdings increased by 36% than the NSCA 2011/2012. The survey shows 42882 holdings kept cattle (40 percent of total holdings) compared with 29086 (33 percent of total holdings) in NSCA 2011/12 in Chitwan. In between Census 2011/12 and survey 2019 period the number of buffaloes decreased by 74873 (3 percent), goats by 198025 (17 percent) and pigs by 4034 (59 percent). Similarly, the survey has reported that the total number of chickens increased by 47 percent, i.e., 4141498 and number of duck decreased by 6 percent, i.e. 70193 in the Chitwan within the census and survey period.

Table 2b. Livestock and Poultry

Livestock type	Holdings		Livestock	
	Agriculture Census 2011/12	Pilot survey 2019	Agriculture Census 2011/12	Pilot survey 2019
Cattle	29086	42882	71864	97944
Buffalo	39818	33406	77045	74873
Goat	53179	41343	238373	198025
Pig	4181	2109	9710	4034
Chicken	37972	31161	2810327	4141498
Duck	7698	6960	74604	70193

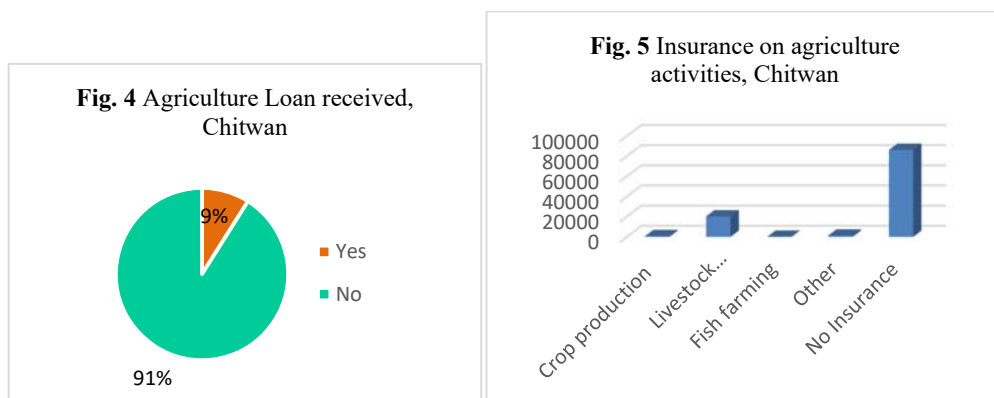
2.1.10 Loss of crop production, livestock/poultry and agriculture machinery due to disaster during reference period (Table 18, 26, 42)

According to the survey result, it is seen that certain quantities of produced paddy, maize and potato are damaged during storage by the disaster in the reference period. It is estimated that 36348 kg paddy, 22012 kg maize and 62105 kg potato are damaged during the storage by the disaster. Similarly, some quantities of these crops are damaged during the post-harvest handling period too. It is estimated that 61094 kg paddy, 4531 kg maize, 915 kg potato and 7552 kg mustard are damaged during the post-harvest handling.

The survey has also reported the loss of livestock and poultry due to the disaster. The number of deaths of cattle, buffaloes and goats are estimated 4993, 2333 and 5747 respectively during the reference period. Similarly, 1717504 number of chickens are reported dead. Similarly, it is seen that mostly destroyed agricultural machinery due to disaster are sprayers, pump set and iron plough whose number is estimated as 2914, 1840 and 826 respectively.

2.1.11 Loan and Insurance (Tables 37, 38)

The survey has reported that there are 9740 (9 percent of total holdings) holdings that has existing agriculture loan and out of that 2263 (23.3 percent) holdings has received agriculture loan with interest subsidy. According to survey result, most of the holdings (80 percent) reported that they have not done insurance of any agriculture activities in Chitwan. But, about 19 percent of the holdings have done insurance for livestock farming and only few holdings reported insurance for other agriculture activities.

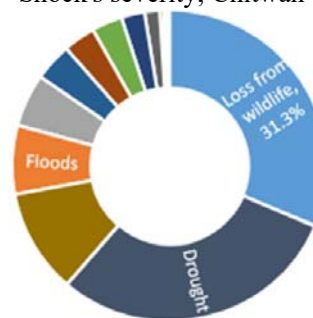


2.1.12 Shock's Severity and Response (Tables 39, 40)

As per the survey result, 10110 holdings (9.3 percent) out of the total holdings reported that they were hit by at least one of the severe shocks during the reference period. Most of the holdings reported loss from wild animals, 31.3 percent as the major shock followed by drought, 30.1 percent, the two major causes of shocks.

In response to the shock, most of the holdings reported mitigation by past savings which is 40.3 percent and 10.4 percent holdings reported mitigation by selling crops and/or livestock.

Fig. 6 Holdings reporting Shock's severity, Chitwan



2.1.13 Agriculture Workers (Table 43)

As per the survey result, 78,262 holdings (72.1 percent) of the total holdings reported that they have hired agricultural workers on their holdings for agriculture activities during the reference period. Out of 1,06,393 holdings, 76,805 holdings (72.2 percent) reported hire agriculture workers for agriculture activities in non-commercial holdings and similarly, out of 2,177 commercial holdings, 1,456 holdings (66.9 percent) reported hire agriculture worker in the survey 2019.

The survey has reported that the total number of permanent workers (including family members) are 1,56,359 in Chitwan. In which male permanent workers are 61,278 and female permanent workers are

95,081. The total number of temporary workers and exchange workers are estimated to be 25,42,844 and 4,55,666 respectively in the survey year.

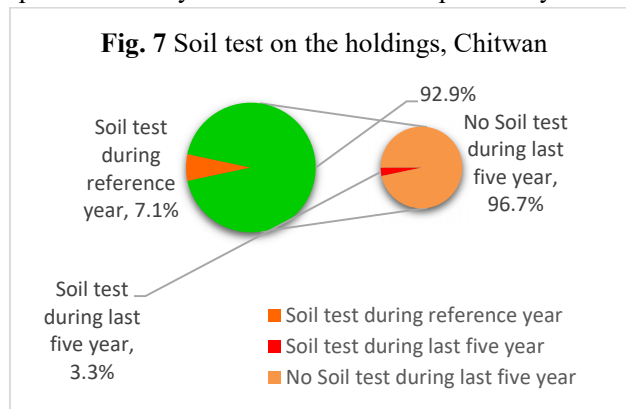
2.1.14 Farm population (Table 10, 15)

The farm population is composed of all household members listed in the survey 2019. From the Survey results, the total farm population are 4,44,915 of whom 2,02,313 are males comprising about 45.5%. The sex ratio is 83 males per 100 females. The average size of the farm households in 2019 is 4.2 persons. According to the survey, 13881 males and 12185 females above 15 years of age have received formal training on agriculture.

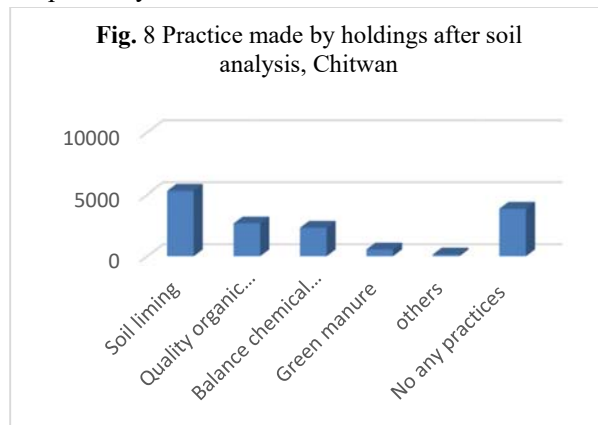
The survey has reported that the total number of population who spent all time (100 %) in agricultural activities is 33752 out of which 17813 are males comprising about 53% and 15938 are females comprising about 47%. Similarly, 114344, 65002 and 177642 number of population spent almost all of their time (60%-99%), about half of the time (40%-59%) and less of the time (< 40%) in agricultural activities respectively.

2.1.15 Soil Management (Table 52, 53)

According to the survey result, 7.1 percent of 104294 holdings reported that they have done soil test in the reference year. Also 3.3 percent of the holdings (96849 holdings) who did not conduct soil test in the reference year, reported that they have done soil test in past five years.



Soil liming was the major practice made by holdings for the improvement of soil after soil analysis which is 49.5 percent of 10652 holdings. Similarly, other practices reported were use of organic manure, use of balanced chemical fertilizer, and use of green manure which was 25.1 percent, 21.8 percent, and 5.2 percent respectively.



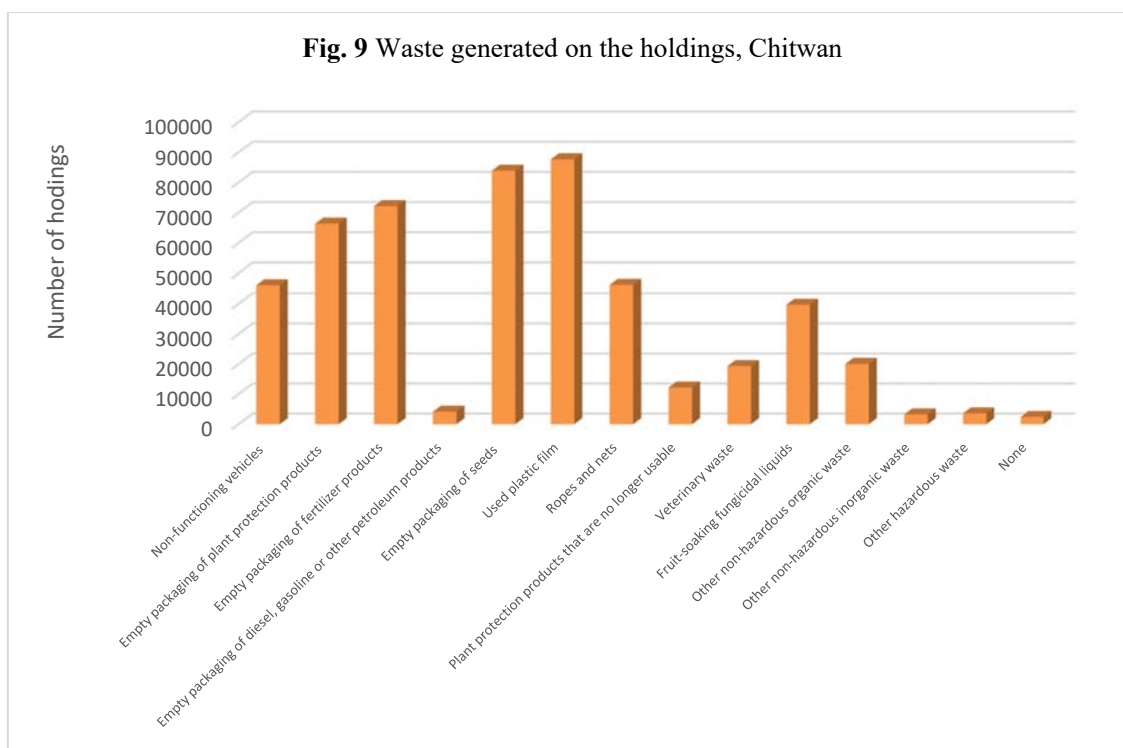
2.1.16 Irrigation Practice (Tables 56, 57, 58)

The survey reports that about 84 percent of the total holdings are irrigating land during last three years from the survey period, but about 15 percent holdings are reported no irrigation because of not having the facilities of irrigation. Out of irrigating holdings, 69 percent holdings reported surface irrigation method used for irrigation land. Similarly, 8 percent holdings reported Sprinkler irrigation/Spray irrigation method used for the irrigation purposes in Chitwan.

It is seen that, about 42 percent holdings are irrigated their land through underground water. Only 26 percent holdings reported irrigating land through Dam/Reservoir/Canal in the district.

2.1.17 Climate Change and Waste Management (Tables 75, 76, 77)

According to the survey result, only 7.2 percent out of 108544 holdings reported hit by natural extreme events or disaster on the holdings. Among them 4.1 percent holdings reported economic impacts and 3.1 percent holdings reported physical impacts. Decrease in production was the major economic impact and loss of crops was the major physical impact experienced by the holdings. As per the result, 89.6 percent holdings which have reported of having the economic impacts mentioned that they have observed a decrease in production and 98.6 percent holdings of the physical impact reported of loss of crops.



According to the survey, 42339 holdings (39 percent) out of 108544 holdings knew about the climate change in the district and 30.4 percent of the holdings who knew about the climate change adopted mitigation strategy by use of traditional farm practice and knowledge to adapt climate change.

As the result shows, 80.8 percent of the total holdings have reported that the plastic film is the main waste generated from the holdings, followed by empty packages of seeds as the second largest waste generated which is reported by 77.3 percent of total holdings.

To manage the waste generated by the holdings, most of them about 47 percent has reported waste taken away by professional followed by 33.8 percent who treated by burning the waste.

In addition, to manage the waste water generated by the holdings, 62 percent of the holdings have reported the method of using the waste water to agricultural land.

2.2 Some Major findings of Khairahani Municipality

2.2.1 Number and Area of Holdings (Table 1k)

The survey has been also conducted in Khairahani Municipality as a separate domain to give reliable estimates of that municipality. However, the registered commercial agriculture activities are not taken separately in the survey for Khairahani Municipality. The statistical tables presented in this report include the estimates for non-registered holdings only. The major findings of the Khairahani Municipality are presented below as follows.

The survey reported 11181 holdings with land and 293 holdings without land in Khairahani Municipality, i.e. the total number of holdings in Khairahani are 11474 and the area of total holdings reported is 4573.8 hectares in the reference year. It is seen that the average size of holdings of the municipality, 0.40 hectares is a slightly larger than the average size of holdings of the Chitwan district, 0.36 hectares.

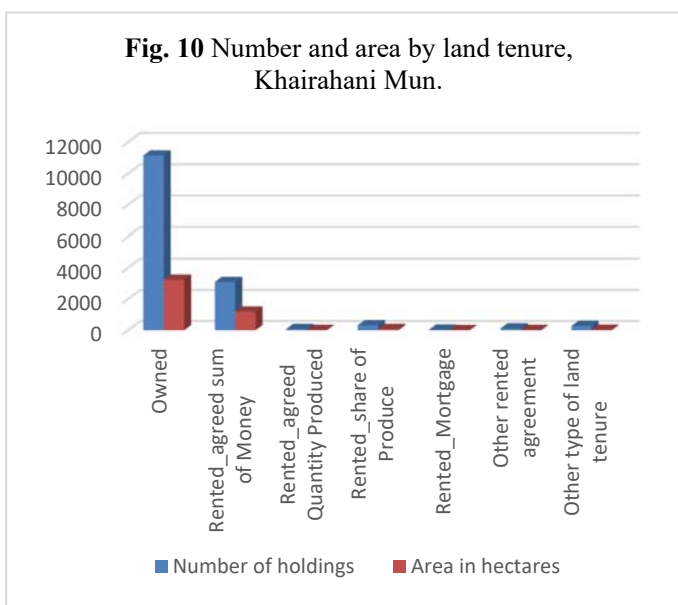
2.2.2 Land Tenure (Tables 2k, 2k.1)

In Khairahani municipality, the majority of holdings are also operated by owners. According to the survey, 66.8 percent of land holdings are fully owned. A number of 3,478 holdings (30.3 percent) comprised land which is partly owned and partly rented. Only 258 holdings (2.3 percent) are operated as fully rented and 68 holdings (0.6 percent) are operated as other tenure form in the municipality.

In all, 1307.8 hectares out of a total of 4573.8 hectares of operated land (28.6 percent) are rented land and a total of 70.8 percent of land is operated as owned.

Agreed sum of money is the most popular conditions of rent practiced in renting land with 86 percent of 3600 rented holdings in Khairahani municipality. The second highest preferred condition of renting is “Share of produce” with 8.7 percent (314 holdings) in the municipality.

The highest area being rented is 1193.7 hectares which is reported to be rented through agreed sum of money followed by 72.1 hectares land which is rented through share of production.



2.2.3 Land Use (Table 3k)

The survey has reported that 4164.8 hectares (91 percent) out of 4573.8 hectares of land operated by agriculture holdings are agriculture land in Khairahani municipality; 408.9 hectares (9 percent) are other land, which are total land covered by house/shelter, forest, pond, and useless land.

Most of the agriculture land is used for the cultivation of temporary crops – 3845.7 hectares in the municipality. The area under permanent crops is only 276.1 hectares in the municipality.

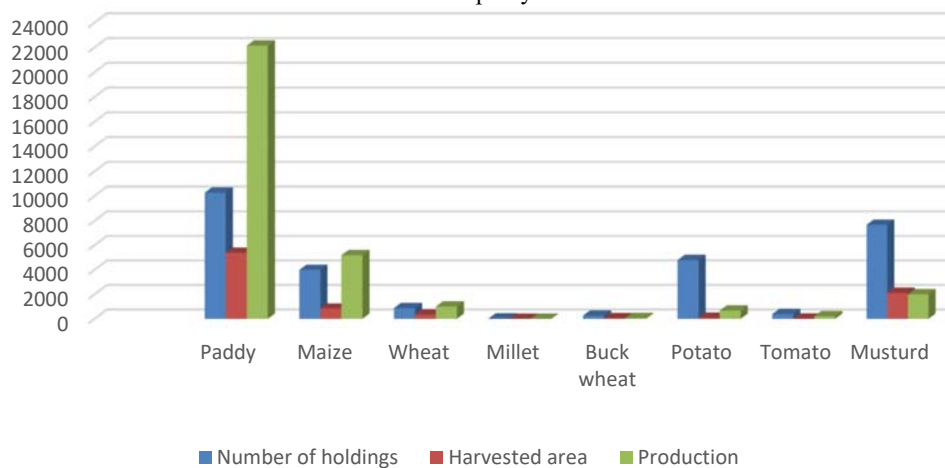
2.2.4 Female’s Ownership in Agricultural Land (Table 4k)

According to the survey result, 4675 holdings (40.7 percent) out of 11474 holdings have reported ownership of female in agricultural land. The total area of agricultural land owned by female is 830.7 hectares and the total number of females who owned agricultural land is 4719 in the municipality. It shows that average area of agricultural land owned per female is 0.18 hectare in Khairahani municipality.

2.2.5 Temporary Crops (Table 12k)

The major temporary crops produced in Khairahani municipality are paddy, mustard, potato, maize and wheat. As a survey result, 10271 holdings are engaged in paddy (both types of paddy-Barkhe and Chhaite)¹ production during the reference period. Similarly, the number of holdings engaged in mustard, potato, maize and wheat production are 7668, 4795, 3993 and 873, respectively.

Fig. 11 Number, area and production of major temporary crops, Khairahani Municipality



The total harvested area and production of paddy reported in the municipality are 5381.8 ha. and 22154.7 metric ton. respectively in reference period. Its shows that the yield rate of paddy is 4.1 metric ton per hectare. Similarly, the harvested area, production and yield rate of mustard are reported 2119.8 hectares, 2001.7 metric ton and 0.9 mt. ton/ha. respectively and the area, production and yield rate of maize are 826.2 hectares, 5193.0 metric ton and 6.3 metric ton per hectare respectively at the reference period.

¹Barkhe paddy is the main season paddy and the Chhaite paddy is the spring season paddy.

2.2.6 Permanent Crops (Table 17k)

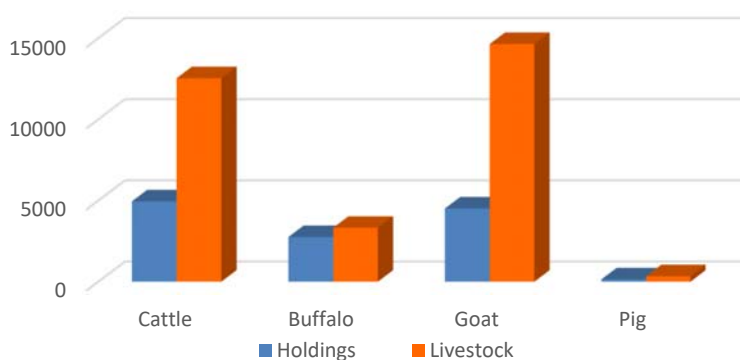
The banana and mango are the major permanent crops planted in the municipality. As per the survey result, 957 holdings have reported banana planting on their holdings. The compact plantation area of banana is 276.5 hectare in Khairahani. Similarly, the survey has reported that the area of compact plantation of mango is 2.2 hectares.

The production of banana and mango are reported 3386.3mt. ton and 302.6 mt. ton respectively in the municipality in reference period.

2.2.7 Livestock and Poultry (Table 22k)

According to the survey results, out of 11474 holdings, 4949, 2753, 4508 and 146 holdings reported of having cattle, buffaloes, goats and pigs respectively in the municipality. The number of cattle, buffaloes, goats and pigs were reported as 12537, 3320, 14637 and 337, respectively in the survey year.

Fig.12 Number of holdings and livestock, Khairahani Municipality



Similarly, out of 11474 holdings, 2648 and 1661 holdings are reported of having chicken and ducks respectively. The number of chicken and ducks were reported as 100945 and 19858 respectively in Khairahani in the reference period.

PART-III

STATISTICAL TABLES

(CHITWAN DISTRICT ESTIMATES)

Table 1. Number and Area of holding reporting by total area of holding, Chitwan

Total area of holdings	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	Area in hectare	Number of holdings	Area in hectare	Number of holdings	Area in hectare
Holding without land	1770	39.0	1747	37.9	23	1.1
Holding with land	106800	38969.3	104646	37003.2	2154	1966.1
Under 0.1 ha.	26290	1531.9	25956	1511.2	334	20.7
0.1 ha. and under 0.2 ha.	19899	3470.4	19469	3407.8	430	62.6
0.2 ha. and under 0.5 ha.	44137	16429.6	43652	16278.6	486	151.0
0.5 ha. and under 1 ha.	12337	8866.1	11899	8568.0	438	298.1
1 ha. and under 2 ha.	3446	5103.0	3228	4817.8	219	285.3
2 ha. and under 3 ha.	173	394.7	47	96.9	126	297.8
3 ha. and under 4 ha.	26	92.7			26	92.7
4 ha. and under 5 ha.	192	861.2	177	795.1	15	66.1
5 ha. and under 10 ha.	281	1941.4	219	1527.8	62	413.6
10 ha. and over	19	278.3			19	278.3
Total	108570	39008.3	106393	37041.1	2177	1967.2

Table 2. Number and area of holdings by land tenure, Chitwan

Types of Land tenure	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	Area in hectares	Number of holdings	Area in hectares	Number of holdings	Area in hectares
Owned	102856	27278.8	100820	26114.37	2036	1164.5
Rented based on agreed sum of Money	23414	8952.6	22856	8226.30	558	726.3
Rented based on agreed Quantity Produced	910	358.8	901	351.53	9	7.2
Rented based on share of Produce	1737	377.8	1729	373.41	8	4.4
Rented based on Mortgage	2361	918.4	2360	916.78	1	1.6
Other rented agreement	4381	374.8	4359	349.54	22	25.2
Other type of land tenure	7100	747.0	6998	709.15	102	37.9
Total	108570	39008.2	106393	37041.08	2177	1967.1

Table 2.1. Number and area of holdings by land tenure, Chitwan

Total of Commercial and Non-Commercial Holdings					
Type of tenure	Number of holdings	Area (ha.)			
		Owned	Rented	Other	Total
One tenure form					
Owned	71751	21574.1			21574.1
Rented	3023		865.2		865.2
Other	1419			247.8	247.8
Total one tenure form	76193	21574.1	865.2	247.8	22687.1
More than one tenure form	32377	5704.7	10117.1	499.2	16321.1
Total land holdings	108570	27278.8	10982.3	747.0	39008.2
Non-Commercial Holdings					
One tenure form					
Owned	70250	20680.5			20680.5
Rented	2905		702.9		702.9
Other	1396			243.3	243.3
Total one tenure form	74551	20680.5	702.9	243.3	21626.7
More than one tenure form	31842	5433.9	9514.6	465.9	15414.4
Total land holdings	106393	26114.4	10217.6	709.2	37041.1
Commercial Holdings					
One tenure form					
Owned	1501	893.7			893.7
Rented	118		162.3		162.3
Other	23			4.6	4.6
Total one tenure form	1642	893.7	162.3	4.6	1060.5
More than one tenure form	535	270.8	602.5	33.3	906.6
Total land holdings	2177	1164.5	764.8	37.9	1967.1

Table 3. Number and area of holdings by land use, Chitwan

Land Use	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	Area in hectares	Number of holdings	Area in hectares	Number of holdings	Area in hectares
TOTAL AREA ON HOLDINGS	108570	39008.28	106393	37041.08	2177	1967.2
Total agricultural area	108523	33836.23	106346	32208.01	2177	1628.2
Agricultural area utilized	108523	33836.23	106346	32208.01	2177	1628.2
Area of Temporary Crops (Outside Green house)	103977	30566.25	103006	29799.33	970	766.9
Area of temporary crops (inside Green house)	111	36.79	86	26.31	25	10.5
Area of temporary fallow	2581	446.79	2549	441.13	32	5.7
Area of temporary meadow	251	147.80	215	139.27	36	8.5
Area of permanent crops	12482	1784.21	12321	1341.25	161	443.0
Area of permanent meadow	211	7.64	204	6.87	8	0.8
Area of land used in other agri. Activity	7922	846.74	6683	453.86	1239	392.9
Total other area	106856	5172.06	104985	4833.07	1871	339.0
Area of land cover by house/shelter	106762	4148.43	104899	3858.16	1863	290.3
Area of land covered by forest	3164	346.61	3089	309.56	75	37.0
Area of land covered by pond	1728	348.03	1721	338.16	8	9.9
Area of useless land	2780	328.99	2761	327.19	20	1.8

Table 4. Number, Area of holdings reporting female's ownership in agriculture land and number of females have ownership in land, Chitwan

Female's Ownership in agricultural land	Number of holdings	Area in hectare	Number of female
Yes	42866	7406.4	43898
No	63527		
Total	106393		

Table 5. Area and holding reporting agricultural land affected by disaster during the reference period, Chitwan

Land affected by disaster during the reference period	Number of holdings	Area of land affected by physical (hectare)	Area of land affected by chemical (hectare)
Yes	1786	421.0	15.0
No	104607		
Total	106393		

Table 6. Number and percent of holding reporting by agriculture activities, Chitwan

Agriculture activities	Number of holdings reporting	% of total holdings
Operational Status of holding		
One family holding	105980	99.6
Multi-family holding	414	0.4
Total	106393	100.0
Keeping Record of agri./economic activities		
No	84694	79.6
Yes, partially	19653	18.5
Yes, regularly	2047	1.9
Total	106393	100.0
Main activity of holdings from economic view		
Crop production	98118	92.2
Livestock grazing	7377	6.9
Fisheries	784	0.7
Bee keeping	115	0.1
Total	106393	100.0
Main crop of holding from economic view		
Cereal crops	79558	81.1
Vegetable crops	16808	17.1
Legumes	75	0.1
Fruit crops	1630	1.7
Grass farming	47	0.05
Total	98118	100.0
Main purpose of raising livestock		
Livestock for meat	1942	26.3
Poultry for meat	922	12.5
Eggs production	98	1.3
Milk production	4414	59.8
Total	7377	100.0
Main purpose of agriculture product		
Mainly for sales (More than 90%)	7172	6.7
Mainly for sales, partly own consumption (50% - 90% sale)	11276	10.6
Mainly for consumption, Partly sales (10% - 50% sales)	23032	21.6
Mainly for own consumption (Less than 10%)	64913	61.0
Total	106393	100.0

Table 7. General Information of commercial agriculture holdings, Chitwan

Number of commercial holdings reporting place of registration	Number of holdings	Percent
District Agriculture Development Office/ Agriculture knowledge center	763	35.0%
District Livestock Office/veterinary hospital/animal expert center	738	33.9%
Company Registered Office	285	13.1%
Local body (VDC/NP/M/RM)	1124	51.6%
Cottage/Small industry dev. Committee	1130	51.9%
Others	414	19.0%
Total	2177	100.0%
Ownership of Agriculture holdings		
Private	2040	93.7
Partnership	46	2.1
Private Limited	91	4.2
Total	2177	100.0

Table 8. Education status of entrepreneur of commercial agriculture holdings by sex, Chitwan

Education Status of proprietor/Entrepreneur	Sex of proprietor/Entrepreneur		
	Male	Female	Total
Illiterate	10	36	46
Literate only	199	45	244
Basic (class 1 to 8)	301	105	406
Secondary level (class 9 to 12)	923	91	1014
Above secondary/University education	454	12	466

Table 9. Share of working time spent on the holding and manager have another gainful activity outside of the holding (If operator own self) by sex of proprietor/entrepreneur for commercial holdings, Chitwan

Share of working time spent on the holding (If operator own self)	Sex of proprietor/Entrepreneur		
	Male	Female	Total
Less (<40%)	197	9	206
About half (40% - 59%)	168	31	199
Almost all (60%-99%)	705	134	838
All (100%)	776	115	891

Table 10. Number of agriculture household and farm population by age group and sex, Chitwan

Age Group	Agriculture Household	Farm Population by sex			Average household size
		Male	Female	Both	
All age	106393	202313	242603	444915	4.2
Less than 15 years	58497	47070	41912	88982	
15 to 24 years	56097	34312	49630	83942	
25 to 44 years	76249	50816	74062	124878	
45 to 64 years	66880	48431	53939	102370	
65 years and over	35068	21683	23059	44743	

Table 11. Absentees population from agriculture household by sex, Chitwan

Absentees Population	Total	Male	Female
Absentees population within the country	49128	29370	19757
Absentees population aboard	59990	45528	14462

Table 12. Marital status of 10 years and above year of age farm population by sex, Chitwan

Sex	Number of population by Marital Status						Total
	Single	Once married	Multiple married	Re-married	Widow / Widower	Separated	
Male	51288	112154	3652	1802	2017	0	170914
Female	57380	149018	1275	693	11190	270	219826
Total	108668	261172	4928	2495	13207	270	390740

Table 13. Education status of 5 years and above years of age and currently attending school (5 years and less than 40 years of age) population by sex, Chitwan

Sex	Number of population by education status (5 years and above years of age)						Currently attending school population (5 years and less than 40 years of age)		
	Illiterate	Literate only	Basic (class 1 to 8)	Secondary level (class 9 to 12)	Above secondary / University education	Total	Yes	No	Total
Male	16317	33455	59648	61206	17035	187661	54843	53141	107984
Female	38154	52033	64459	60295	16256	231196	59272	85523	144795
Total	54472	85488	124107	121500	33291	418857	114116	138664	252780

Table 14. Occupation of farm population by sex (10 years and above years of age), Chitwan

Occupations	Male	Female	Both sex
Armed army / police	516	0	516
Manager	383	129	511
Specialist/ Subject matter specialist	1624	462	2087
Technician / assistant subject matter specialist	6032	2925	8957
Office assistant	2865	1956	4821
Service /sales worker	10626	4140	14766
Agri, forest and fisheries skill worker	77847	90076	167924
Business worker	5340	2702	8042
Factory/machine operator	4878	110	4988
Elementary semi-skill worker	3024	168	3193
Household work	4725	53669	58393
Student	37590	47100	84690
No economic work	15464	16388	31852
Total	170914	219826	390740

Table 15. Number of population reporting formal training received, participate in decisions making for agriculture activities, average time spent, involvement income earning activities other than agriculture and types of activities by sex, Chitwan

	Sex		Total
	Male	Female	
Formal training received on agriculture (Greater than 15 year of age)			
Yes	13881	12185	26066
No	141362	188505	329867
Total	155243	200690	355933
Participate in decisions concerning crops and livestock (Greater than 15 year of age.)			
Yes	92868	108266	201134
No	62374	92424	154799
Total	155243	200690	355933
Average time spending on agriculture activities			
Less (<40%)	84463	93179	177642
About half (40% - 59%)	26086	38917	65002
Almost all (60%-99%)	42552	71792	114344
All (100%)	17813	15938	33752
Total	170914	219826	390740
Involvement in additional income earning activities other than agriculture (10 years and above years of age)			
Yes	45678	17790	63468
No	125235	202036	327272
Total	170914	219826	390740
Types of additional activities other than agriculture (10 years and above years of age)			
Mining and quarrying	0	0	0
Industrial production	1615	647	2262
Electricity, gas etc.	354	0	354
Water supply, sewerage	329	0	329
Construction	3747	0	3747
Wholesale and retail business	6017	4873	10890
Vehicle and motor cycle repair	2840	0	2840
Transportation and Storage	3416	0	3416
Residence and fooding service	2668	1475	4143
Information and communication	714	105	818
Financial and insurance activities	1499	1883	3382
Real state business	1910	0	1910
Scientific and Technical activities	4497	1955	6452
Public service and support service activities	2510	959	3469
Public administration and compulsory service	942	0	942
Education	5116	3426	8542
Human health and social worker	1026	1256	2282
Entertainment, recreation and ?.	310	105	415
Other service provider activities	6169	1105	7274

Table 16. Number of holdings, Area, Production and Yield rate by temporary crops, Chitwan

Major Temporary Crops	Total					Non-Commercial holdings					Commercial holdings				
	Number of holdings	Area in hectare		Production in Metric Ton	Yield Rate (Mt./ Ha)	Number of holdings	Area in hectare		Production in Metric Ton	Yield Rate (Mt./Ha)	Number of holdings	Area in hectare		Production in Metric Ton	Yield Rate (Mt./ Ha)
		Planted	Harvested				Planted	Harvested				Planted	Harvested		
Paddy (BHARKHE)	62105	19893.7	19816.4	82640.3	4.2	62105	19893.7	19816.4	82640.3	4.2					
Maize	70692	18826.5	18632.6	68920.1	3.7	70692	18826.5	18632.6	68920.1	3.7					
Wheat	8653	2305.0	2269.1	6021.6	2.7	8653	2305.0	2269.1	6021.6	2.7					
Millet	5906	498.8	495.2	726.7	1.5	5906	498.8	495.2	726.7	1.5					
Buck wheat	1929	393.0	393.0	439.0	1.1	1929	393.0	393.0	439.0	1.1					
Paddy (Hiude)	23140	7527.9	7491.3	33073.8	4.4	23140	7527.9	7491.3	33073.8	4.4					
Potato	45720	991.2	938.1	6365.9	6.8	45638	985.7	932.5	6301.7	6.8	83	5.5	5.5	64.2	11.6
Tomato	7224	159.4	158.6	3480.9	22.0	7115	111.1	111.1	2195.0	19.8	110	48.3	47.4	1285.9	27.1
Mustard	49401	11530.2	11419.9	8735.1	0.8	49401	11530.2	11419.9	8735.1	0.8					

Table 17. Number of holdings reporting use of fertilizer, quantity of fertilizer and reason for not using fertilizer by temporary crops, Chitwan

Total of commercial and non-commercial holdings																		
Major Temporary Crops	Total number of holdings reporting	Chemical Fertilizers used on crop					Compost (Organic) fertilizer				Number of holding reporting reason of not used chemical fertilizer				Number of holding reporting reason of not used compost (organic) fertilizer			
		Number of holdings reporting	Quantity Used in Kg				Number of holdings reporting	Quantity Used in Kg			High price	Not available	Not necessary	Others	High price	Not available	Not necessary	Others
			Urea	DAP	Potas	Other micro nutrition		Produce in agriculture holding	Purchased fertilizer	Exchange with goods and services								
Paddy (BHARKHE)	62105	60515	1879021	1330888	356705	82237	29175	86411455	9239073	1232314	321	95	1165	105	712	9064	22419	996
Maize	70692	34813	2287875	235337	68643	11535	63040	297343415	153875256	1556416	577	1659	33547	1209	444	2726	4449	768
Wheat	8653	7457	152034	158663	15599	3528	4588	6866639	2195845	87425	161	0	1035	0	220	1070	2340	434
Millet	5906	259	3758	2124	1062	0	1790	1329407	0	0	232	869	4644	44	0	798	3176	142
Buck Wheat	1929	378	8962	9209	0	0	1106	1451030	0	0	142	71	1446	105	0	0	600	222
Paddy (Hiude)	23140	22726	786795	568163	119005	41601	9706	35692217	7679994	302087	220	0	195	0	877	5529	6599	1237
Potato	45720	24154	44716	93175	45899	13586	40702	9527157	2285695	39951	215	1045	19998	755	169	1334	3555	132
Tomato	7224	2786	31956	24885	11096	20964	6356	1793861	778941	0	0	0	4427	0	0	0	856	0
Mustard	49401	40920	380682	640962	114562	21742	23105	43617637	5549386	11492	115	608	7742	361	377	5597	20494	1012
Non-commercial holdings																		
Paddy (BHARKHE)	62105	60515	1879021	1330888	356705	82237	29175	86411455	9239073	1232314	321	95	1165	105	712	9064	22419	996
Maize	70692	34813	2287875	235337	68643	11535	63040	297343415	153875256	1556416	577	1659	33547	1209	444	2726	4449	768
Wheat	8653	7457	152034	158663	15599	3528	4588	6866639	2195845	87425	161	0	1035	0	220	1070	2340	434
Millet	5906	259	3758	2124	1062	0	1790	1329407	0	0	232	869	4644	44	0	798	3176	142
Buck Wheat	1929	378	8962	9209	0	0	1106	1451030	0	0	142	71	1446	105	0	0	600	222
Paddy (Hiude)	23140	22726	786795	568163	119005	41601	9706	35692217	7679994	302087	220	0	195	0	877	5529	6599	1237
Potato	45638	24104	44667	92925	45820	13577	40627	9416527	2277539	39951	215	1045	19965	755	169	1334	3547	132
Tomato	7115	2689	26886	14010	2303	17355	6259	1683552	369384	0	0	0	4426	0	0	0	855	0
Mustard	49401	40920	380682	640962	114562	21742	23105	43617637	5549386	11492	115	608	7742	361	377	5597	20494	1012
Commercial holdings																		
Potato	83	50	49	251	79	8	75	110630	8156	0			33				8	
Tomato	110	97	5070	10875	8792	3609	97	110309	409558	0			1				1	

Table 18. Quantity of product used by the holdings and stocks and storage status on the holding by temporary crops, Chitwan

Total of commercial and non-commercial holdings																
Major Temporary Crops	Used of Product						Stock of product			Storage status						
	Household Consumption	Sold	Feed for livestock/ poultry	Given to worker as wage (kg)	Given to service provider (kg)	If sold, per kg. Price (Average)	Stock of product kept in holding reporting		Quantity of production kept in stock	Holding reporting storage status of product		Quantity of storage in agri. holdings	Quantity of storage outside agri. holding	Quantity of storage for seeds	Quantity of damage in storage by disaster	Quantity of damage from production to storage
	Quantity in Kilogram					Rupees	Yes	No	Kilogram	Yes	No	Kilogram				
Paddy (BHARKHE)	37600552	25580654	246202	123026	885261	24	45308	16692	21299696	55720	6280	60105636	453580	208781	34046	48017
Maize	5240030	42906666	9647970	0	93750	28	36110	34582	9701249	61617	9075	22478754	57340	194733	22012	4531
Wheat	571780	4912974	119861	0	0	26	4213	4334	196418	7365	1182	1723902	0	20011	0	0
Millet	575215	96185	12921	0	33961	46	2300	3605	50450	5222	684	612704	5578	23123	0	373
Buck Wheat	100037	307720	24569	0	3874	40	370	1558	5992	1439	490	161699	0	9394	708	0
Paddy (Hiude)	9099613	20648419	109234	0	525059	22	0	0	0	16027	7113	15711804	114680	288322	2302	13077
Potato	4385132	1146114	413	0	114989	24	10456	35158	614290	39161	6454	4241521	79771	45744	62105	915
Tomato	376244	3057469	0	326	57811	30	0	0	0	628	6584	31411	0	0	0	0
Mustard	5263165	1367549	919	0	143224	79	32431	16970	2610914	46473	2929	7117517	57340	117809	0	7552
Non-commercial holdings																
Paddy (BHARKHE)	37600552	25580654	246202	123026	885261	24.34	45308	16692	21299696	55720	6280	60105636	453580	208781	34046	48017
Maize	5240030	42906666	9647970		93750	27.71	36110	34582	9701249	61617	9075	22478754	57340	194733	22012	4531
Wheat	571780	4912974	119861		0	26.42	4213	4334	196418	7365	1182	1723902		20011		
Millet	575215	96185	12921		33961	45.50	2300	3605	50450	5222	684	612704	5578	23123		373
Buck Wheat	100037	307720	24569		3874	40.47	370	1558	5992	1439	490	161699		9394	708	
Paddy (Hiude)	9099613	20648419	109234		525059	22.25				16027	7113	15711804	114680	288322	2302	13077
Potato	4372409	1104472	413		112134	22.59	10424	35108	607358	39079	6452	4224313	74063	40851	62105	793
Tomato	369049	1787243			48455	35.46				628	6486	31411				
Mustard	5263165	1367549	919		143224	79.11	32431	16970	2610914	46473	2929	7117517	57340	117809		7552
Commercial holdings																
Potato	12723	41642			2854	25	33	50	6932	82	1	17208	5709	4893		122
Tomato	7195	1270227		326	9356	24					98					

Table 19.Number of holdings reporting irrigation, plant protection and crops cultivated together with other crops by temporary crops, Chitwan

Total of commercial and non-commercial holdings										
Major Temporary Crops	Holding reporting plant protection product used on crop		Holding reporting crops cultivated together with other crops			Holding reporting percentage of irrigated area of crops				
	Yes	No	No	Yes, Fully	Yes, Partially	None	Under 25%	25% to 50%	51% to 75%	76% to 100%
Paddy (BHARKHE)	32681	29424	60305	266	1534	1509	95	916	649	58936
Maize	20228	50465	57720	775	12198	21830	44	1719	147	46952
Wheat	3294	5359	7767	0	885	681	0	0	0	7972
Millet	0	5906	5862	0	44	2545	0	875	0	2485
Buck Wheat	0	1929	1929	0	0	739	71	0	0	1119
Paddy (Hiude)	19549	3592	22035	0	1105	151	0	0	0	22989
Potato	21665	24056	38006	427	7287	5381	106	1022	0	39211
Tomato	3752	3460	6090	0	1122	1096	0	0	0	6117
Mustard	30731	18671	45914	1600	1887	14616	0	254	167	34364
Non-commercial holdings										
Paddy (BHARKHE)	32681	29424	60305	266	1534	1509	95	916	649	58936
Maize	20228	50465	57720	775	12198	21830	44	1719	147	46952
Wheat	3294	5359	7767	0	885	681	0	0	0	7972
Millet	0	5906	5862	0	44	2545	0	875	0	2485
Buck Wheat	0	1929	1929	0	0	739	71	0	0	1119
Paddy (Hiude)	19549	3592	22035	0	1105	151	0	0	0	22989
Potato	21631	24007	37923	427	7287	5365	106	1022	0	39145
Tomato	3663	3451	5992	0	1122	1096	0	0	0	6019
Mustard	30731	18671	45914	1600	1887	14616	0	254	167	34364
Commercial holdings										
Potato	34	49	83	0	0	16	0	0	0	66
Tomato	89	9	98	0	0	0	0	0	0	98

Table 20. Number of holdings reporting types of seed varieties, quantity of different types of seed and source of local varieties seed used by temporary crops, Chitwan

Total of commercial and non-commercial holdings													
Major Temporary Crops	Number of holding by types of varieties of seed planted					Quantity of seed consisted in (Kg)			Quantity of sources of local varieties seed of crops (Kg)				
	1 type	2 type	3 type	4 type	5 type	Improved varieties	Hybrid varieties	Local varieties	Produced on the holdings	Exchange within the community	Purchased from the local market	Purchased from seed company	Received from grant
Paddy (BHARKHE)	57701	3971	434	0	0	532289	165743	410895	250760	19492	132810	29562	0
Maize	67705	2952	36	0	0	91650	132040	362609	290182	12963	61331	2591	1947
Wheat	8653	0	0	0	0	269896	1269	53811	29027	0	25227	4636	0
Millet	5797	109	0	0	0	798	0	20365	20303	61	0	0	0
Buck Wheat	1929	0	0	0	0	0	0	18439	9969	997	4892	2580	0
Paddy (Hiude)	21851	1115	175	0	0	305752	17565	207672	108599	27770	75903	1363	0
Potato	42083	3637	0	0	0	413193	34705	254205	85491	1838	219262	4459	0
Tomato	6561	649	1	1	0	443	7039	12048	12040	2	84	0	0
Mustard	49401	0	0	0	0	30386	3773	207096	165988	9460	32888	1016	0
Non-commercial holdings													
Paddy (BHARKHE)	57701	3971	434		0	532289	165743	410895	250760	19492	132810	29562	0
Maize	67705	2952	36		0	91650	132040	362609	290182	12963	61331	2591	1947
Wheat	8653	0	0		0	269896	1269	53811	29027	0	25227	4636	0
Millet	5797	109	0		0	798	0	20365	20303	61	0	0	0
Buck Wheat	1929	0	0		0	0	0	18439	9969	997	4892	2580	0
Paddy (Hiude)	21851	1115	175		0	305752	17565	207672	108599	27770	75903	1363	0
Potato	42008	3629	0		0	409156	34617	253389	84676	1838	219262	4459	0
Tomato	6465	649	0		0	442	4918	12048	12040	2	84	0	0
Mustard	49401	0	0		0	30386	3773	207096	165988	9460	32888	1016	0
Commercial holdings													
Potato	75	8	0	0	0	4037	88	816	816	0	0	0	0
Tomato	96	0	1	1	0	1	2121	0	0	0	0	0	0

Table 21. Number of holdings, Area of compact plantation, number of productive, non-productive and scattered trees and Production by permanent crops, Chitwan

Total of commercial and non-commercial holdings								
Major Permanent Crops	Number of Holdings reporting	Compact Plantation				Number of Scattered trees		Production (Mt. ton)
		Plantation Area		Productive age of crop		Productive Age	Unproductive Age	
		Area (ha.)	Number of trees	Area (ha.)	Number of trees			
Big lemon	4050	15.7	6005	15.2	4800	4605	1507	258.0
Lemon	6719	11.9	8157	10.5	3988	5460	6968	81.1
Mango	20242	87.7	172670	70.8	13138	25539	30645	2615.5
Papaya	10281	9.2	11875	9.2	11779	24740	8510	943.9
Banana	11158	1470.7	3921307	1424.8	3685099	95076	258451	69883
Non-Commercial holdings								
Big lemon	4050	15.7	6005	15.2	4800	4605	1507	258.0
Lemon	6719	11.9	8157	10.5	3988	5460	6968	81.1
Mango	20242	87.7	172670	70.8	13138	25539	30645	2615.5
Papaya	10281	9.2	11875	9.2	11779	24740	8510	943.9
Banana	11108	1200.7	3247345	1164.3	3060264	95076	258451	65354.2
Commercial holdings								
Banana	50	270.0	673963	260.5	624834	0	0	4528.3

Table 22. Number of holdings reporting, production compared to the previous year and production decrease due to hazards by Permanent crops, Chitwan District

Major Permanent Crops	Total						Non-Commercial holdings						Commercial holdings					
	Number of holdings reporting	Production compared to the previous year				Production decrease due to hazards	Number of holdings reporting	Production compared to the previous year				Production decrease due to hazards	Number of holdings reporting	Production compared to the previous year				Production decrease due to hazards
		Similar	Greater	Lower	Not applicable			Similar	Greater	Lower	Not applicable			Similar	Greater	Lower	Not applicable	
		Number of holdings						Kilogram	Number of holdings					Kilogram	Number of holdings			
Big lemon	4050	1886	545	48	769	0	4050	1886	545	48	769	0						
Lemon	6719	2707	1255	148	685	296	6719	2707	1255	148	685	296						
Mango	20242	8024	2635	1127	2323	276960	20242	8024	2635	1127	2323	276960						
Papaya	10281	6171	3018	98	847	0	10281	6171	3018	98	847	0						
Banana	11158	2920	6017	380	1264	12759	11108	2917	5991	362	1261	12759	50	3	26	18	3	550800

Table 23. Number of holdings reporting used of fertilizer. quantity of fertilizers and reason for not using fertilizer by Permanent crops, Chitwan

Total of commercial and non-commercial holdings																			
Major Permanent Crops	Total number of holdings reporting	Chemical Fertilizers used on crop					Compost (Organic) fertilizer					Number of holding reporting reason of not used chemical fertilizer				Number of holding reporting reason of not used compost (organic) fertilizer			
		Number of holdings reporting	Quantity Used in Kg				Number of holdings reporting	Quantity Used in Kg			High price	Not available	Not necessary	Others	High price	Not available	Not necessary	Others	
			Urea	DAP	Potas	Other fertilizer		Produce in agriculture holding	Purchased fertilizer	Exchange with goods and services									
Big lemon	4050	0	0	0	0	0	868	34095	2152	0	108	0	3942	0	0	0	3181	0	
Lemon	6719	0	0	0	0	0	1672	44353	0	94	0	0	6719	0	0	0	5046	0	
Mango	20242	148	296	0	0	0	3341	36549	8754	0	531	0	18857	706	105	98	15580	1216	
Papaya	10281	0	0	0	0	0	902	51928	59200	0	0	98	10091	190	0	0	9379	0	
Banana	11158	1466	603452	660520	631650	35010	3422	1814174	3505165	3410	856	0	8192	644	299	280	5585	1744	
Non-commercial holdings																			
Big lemon	4050	0					868	34095	2152	0	108	0	3942	0	0	0	3181	0	
Lemon	6719	0					1672	44353	0	94	0	0	6719	0	0	0	5046	0	
Mango	20242	148	296	0	0	0	3341	36549	8754	0	531	0	18857	706	105	98	15580	1216	
Papaya	10281	0					902	51928	59200	0	0	98	10091	190	0	0	9379	0	
Banana	11108	1416	510275	582055	556849	25307	3372	1142031	842880	3410	856	0	8192	644	299	280	5585	1744	
Commercial holdings																			
Banana	50	50	93177	78465	74801	9703	50	672143	2662286	0									

Table 24. Quantity of product used by the holdings and stocks and storage status on the holding by permanent crops, Chitwan

Total of commercial and non-commercial holdings											
Major Permanent Crops	Used of Product					Storage status					
	Household Consumption	Sold	Given to worker as wage (kg)	Given to service provider (kg)	If sold, per kg. Price (Average)	Holding reporting storage status of product		Quantity of storage in agri. holdings	Quantity of storage outside agri. holding	Quantity of damage from production to storage	Quantity of damage in storage by disaster (kg)
	Quantity in Kilogram				Rupees	Yes	No	Kilogram			
Big lemon	140586	92268	0	11705	19	71	3177	3541	0	0	0
Lemon	64943	11120	0	5420	38	0	4795	0	0	0	0
Mango	1416631	378217	0	94360	35	628	13481	15705	0	0	0
Papaya	921040		0	21064	0	628	9505	37693	0	0	0
Banana	832420	61495207	1171	330281	92	599	9982	77321	0	0	0
Non-commercial holdings											
Big lemon	140586	92268		11705	19.37	71	3177	3541	0	0	0
Lemon	64943	11120		5420	37.89	0	4795				
Mango	1416631	378217		94360	34.74	628	13481	15705	0	0	0
Papaya	921040			21064		628	9505	37693	0	0	0
Banana	828884	54294575		325952	33.27	599	9931	77321	0	0	0
Commercial holdings											
Banana	3535	7200632	1171	4329	59	0	50	0	0	0	0

Table 25. Number of holdings reporting irrigation, plant protection and crops cultivated together with other crops by permanent crops, Chitwan

Total of commercial and non-commercial holdings											
Major Permanent Crops	Holding reporting plant protection product used on crop		Holding reporting crops cultivated together with other crops			Holding reporting percentage of irrigated area of crops					
	Yes	No	No	Yes, Fully	Yes, Partially	None	Under 25%	25% to 50%	51% to 75%	76% to 100%	
Big lemon	0	4050	2939	0	1111	1983	0	0	0	2067	
Lemon	488	6230	5864	0	855	1468	0	0	0	5251	
Mango	2690	17552	18731	448	1063	5421	1751	0	0	13070	
Papaya	148	10133	10196	0	85	1767	0	0	0	8514	
Banana	1786	9372	8544	644	1971	4845	0	73	3	6237	
Non-commercial holdings											
Big lemon	0	4050	2939	0	1111	1983	0	0	0	2067	
Lemon	488	6230	5864	0	855	1468	0	0	0	5251	
Mango	2690	17552	18731	448	1063	5421	1751	0	0	13070	
Papaya	148	10133	10196	0	85	1767	0	0	0	8514	
Banana	1739	9369	8512	644	1953	4845	0	73	0	6190	
Commercial holdings											
Banana	47	3	32	0	18	0	0	0	3	47	

Table 26. Number of holdings and livestock/poultry as of day of enumeration and reference period (year), number of born, death, purchased sold and grant received in reference period by age and sex of livestock/poultry, Chitwan

Total of commercial and non-commercial holdings											
Livestock/Poultry	Number of holding	Number of livestock/poultry as of enumeration day			Number of animals in reference period	Number of born animals in reference period	Number of natural death animals	Number of death due to disaster	Number of purchased in reference period	Number of sold in reference period	Number of received in grant
		Total	Local	Improved							
Cattle	42882	97944	42735	55208	119251	28342	7308	4993	12305	24092	1034
Less than one year, male calf	12748	5548	1713	3835	11020	10242	4415	2054	8	2328	517
Less than one year, female calf	19350	14980	6542	8438	21231	18099	1271	1648	167	3809	58
One - three years, male calf	2175	1686	1567	120	2037	0	158	1	157	469	0
One - three years, female calf	13735	13943	5857	8087	11522	0	184	75	1715	1415	161
Three years and above ox	5598	10085	9875	211	10691	0	376	73	699	931	299
Three years and above milking cow	33596	36779	12448	24331	52665	0	828	1128	9246	12128	0
Three years and above non-milking cow	12611	14922	4735	10187	10085	0	75	14	313	3013	0
Buffalo	33406	74873	58539	16334	84406	17296	2258	2333	6409	17623	574
Less than one year, male calf	14494	9239	7243	1996	10599	9234	1340	1751	843	2513	0
Less than one year, female calf	13834	11249	9051	2198	10596	8063	198	476	525	2928	350
One - three years, male calf	7072	8156	7464	691	6871	0	37	0	775	2714	63
One - three years, female calf	14855	13167	8095	5071	16795	0	152	0	943	4554	161
Three years and above he buffalo	911	639	639	0	2265	0	37	0	0	195	0
Three years and above milking buffalo	24918	24300	19773	4527	30025	0	494	106	3212	3079	0
Three years and above non-milking buffalo	9284	8124	6273	1851	7254	0	0	0	111	1640	0
Goat	41343	198025	162316	35708	258956	119301	13638	5747	18998	75036	5710
Below 6 month PATHA	28933	33588	26253	7336	57330	50265	4494	2407	5365	10009	2875
Below 6 month PATHI	24753	27451	21303	6148	41637	37683	2761	1086	560	8888	756
6 month or above Goat (male)	32111	46230	36894	9336	67840	21085	2879	467	8576	44440	696
6 month or above Goat (female)	37724	90755	77867	12888	92149	10269	3504	1788	4497	11699	1384
Pig	2109	4034	2196	1838	9176	5705	976	0	2313	4655	302
Below 6 month PATHA	1424	2481	1029	1452	6902	5584	901	0	1877	4365	302
6 month or above	1420	1553	1167	386	2275	121	76	0	436	290	0
Poultry	35266	4246761			12713045	1019351	1446567	1723912	8848340	10322713	15688
Chicken	31161	4141498			12547277	648918	1418389	1717504	8830618	10038186	15189
Boiler	7429	1220897			8267791	208929	914511	1442425	6303005	6231711	9142

Livestock/Poultry	Number of holding	Number of livestock/poultry as of enumeration day			Number of animals in reference period	Number of born animals in reference period	Number of natural death animals	Number of death due to disaster	Number of purchased in reference period	Number of sold in reference period	Number of received in grant
		Total	Local	Improved							
Layers	2116	2594937			3637342	1286	368936	155530	2201882	3675894	5558
Giriraj (Koiler)	9530	86483			244249	0	25674	8615	252321	72637	0
Local	17090	239180			397895	438702	109268	110935	73411	57944	488
Other Poultry		105263			165769	370434	28178	6407	17722	284527	499
Duck	6960	70193			111445	90524	12577	3473	5368	24387	499
Other poultry	1547	35070			54323	279910	15601	2934	12354	260139	0
		Total	Local	Improved							
Non-commercial holdings											
Cattle	42438	94305	42728	51577	113626	26593	7060	4446	11956	22128	924
Less than one year, male calf	12461	5369	1705	3664	10165	9395	4317	1751	0	2102	413
Less than one year, female calf	18994	14323	6542	7782	20330	17198	1224	1553	135	3448	52
One - three years, male calf	2160	1664	1567	98	2012		158	0	157	467	0
One - three years, female calf	13424	13410	5857	7554	10883		177	36	1702	1107	161
Three years and above ox	5582	10066	9875	191	10667		376	73	699	924	299
Three years and above milking cow	33152	35054	12448	22607	49824		735	1034	8956	11154	0
Three years and above non-milking cow	12404	14418	4735	9683	9744		72	0	307	2926	0
Buffalo	33346	74466	58233	16233	83799	17117	2192	2333	6294	17435	574
Less than one year, male calf	14434	9123	7167	1956	10347	9108	1287	1751	728	2423	0
Less than one year, female calf	13809	11203	9010	2193	10538	8009	188	476	525	2921	350
One - three years, male calf	7034	8076	7385	691	6765		37	0	775	2647	63
One - three years, female calf	14822	13147	8076	5071	16726		152	0	943	4552	161
Three years and above he buffalo	911	639	639	0	2265		37	0	0	195	0
Three years and above milking buffalo	24877	24188	19701	4487	29910		489	106	3212	3061	0
Three years and above non-milking buffalo	9252	8090	6255	1835	7248		0	0	111	1636	0
Goat	41153	190321	156462	33859	249102	114055	12935	5208	18696	72078	5710
Below 6 month PATHA	28743	31756	24827	6929	54686	47658	4196	1899	5349	9095	2875
Below 6 month PATHI	24580	26509	20606	5904	39839	35937	2599	1054	539	8618	756
6 month or above Goat (male)	31931	44238	35316	8921	65531	20469	2863	467	8406	43002	696
6 month or above Goat (female)	37534	87818	75714	12105	89045	9990	3277	1788	4403	11364	1384
Pig	2074	3113	2196	916	3902	117	58	0	2244	175	302

Livestock/Poultry	Number of holding	Number of livestock/poultry as of enumeration day			Number of animals in reference period	Number of born animals in reference period	Number of natural death animals	Number of death due to disaster	Number of purchased in reference period	Number of sold in reference period	Number of received in grant
		Total	Local	Improved							
Below 6 month PATHA	1389	1887	1029	858	2128	117	0	0	1825	58	302
6 month or above	1385	1226	1167	58	1774	0	58	0	418	117	0
Poultry	34588	1393043			7444461	747351	760419	1532389	4549910	4754015	987
Chicken	30500	1310541			7316470	648918	747655	1525982	4532188	4726377	488
Boiler	7209	885494			6640387	208929	610936	1406136	4332983	4639908	0
Layers	1662	129605			159495	1286	1776	296	11529	1222	0
Giriraj (Koiler)	9502	86483			148915	0	25674	8615	144487	27304	0
Local	17075	208958			367673	438702	109268	110935	43189	57944	488
Other Poultry		82502			127991	98434	12764	6407	17722	27638	499
Duck	6960	70193			111445	90524	12577	3473	5368	24387	499
Other poultry	1531	12309			16546	7910	187	2934	12354	3251	0

Commercial holdings

Cattle	444	3639	8	3631	5626	1748	248	547	349	1964	110
Less than one year, male calf	287	179	8	172	855	847	98	303	8	225	103
Less than one year, female calf	356	656	0	656	901	901	46	95	32	361	6
One - three years, male calf	16	22	0	22	25		0	1	0	2	0
One - three years, female calf	311	533	0	533	640		7	39	13	308	0
Three years and above ox	16	20	0	20	24		0	0	0	6	0
Three years and above milking cow	444	1724	0	1724	2841		93	95	290	974	0
Three years and above non-milking cow	207	504	0	504	341		3	14	6	88	0
Buffalo	60	407	306	101	606	179	67	0	115	188	0
Less than one year, male calf	60	116	76	40	252	125	53	0	115	90	0
Less than one year, female calf	26	46	42	5	58	54	10	0	0	7	0
One - three years, male calf	38	80	79	0	107		0	0	0	67	0
One - three years, female calf	33	19	19	0	69		0	0	0	3	0
Three years and above he buffalo	0										
Three years and above milking buffalo	42	112	72	40	115		5	0	0	18	0
Three years and above non-milking buffalo	33	34	18	16	6		0	0	0	4	0
Goat	190	7704	5854	1850	9854	5246	703	539	302	2958	0
Below 6 month PATHA	190	1833	1426	407	2644	2606	298	507	17	914	0
Below 6 month PATHI	173	942	697	245	1797	1745	161	32	21	271	0

Livestock/Poultry	Number of holding	Number of livestock/poultry as of enumeration day			Number of animals in reference period	Number of born animals in reference period	Number of natural death animals	Number of death due to disaster	Number of purchased in reference period	Number of sold in reference period	Number of received in grant
		Total	Local	Improved							
6 month or above Goat (male)	180	1992	1577	415	2309	615	16	0	170	1438	0
6 month or above Goat (female)	190	2937	2153	783	3104	279	227	0	95	336	0
Pig	35	921	0	921	5275	5589	918	0	70	4480	0
Below 6 month PATHA	35	594	0	594	4774	5467	901	0	52	4307	0
6 month or above	35	327	0	327	501	121	17	0	18	173	0
Poultry	678	2853718			5268585	272000	686148	191523	4298430	5568697	14701
Chicken	660	2830957			5230807	0	670735	191523	4298430	5311808	14701
Boiler	220	335403			1627405	0	303575	36289	1970022	1591803	9142
Layers	455	2465331			3477847	0	367160	155234	2190353	3674672	5558
Giriraj (Koiler)	28	0			95333	0	0	0	107833	45333	0
Local	15	30222			30222	0	0	0	30222	0	0
Other Poultry		22761			37778	272000	15413	0	0	256889	0
Duck											
Other poultry	16	22761			37778	272000	15413	0	0	256889	0

Table 27. Number of milking cow and buffaloes, per day average milk and lactation period by types of cow and buffaloes, Chitwan

Total of commercial and non-commercial holdings						
Types of Cow/Bufaloes	Total number of Cow/buffalo	Number of cow/buffalo giving milk	Number of holding reporting giving milk directly to calf		Per cow/buffalo per day average milk (liter)	Duration of cow/buffalovegive milk(Averagemonth)
			Yes	No		
Types of Cow						
Local	17235	12448	4853	6227	5	9
Jersey	31212	21760	3343	10162	10	10
Holistin	3010	2327	185	1327	12	11
Others	245	245	1	242	10	10
Types of Buffaloes						
Local	26233	19773	10777	4840	6	8
Murra	4853	3547	2537	908	7	8
Murra cross	431	256	256	0	3	7
Others	919	724	95	628	6	7
Non-commercial holdings						
Types of Cow						
Local	17235	12448	4853	6227	5	9
Jersey	29831	20674	3304	9825	9	10
Holistin	2164	1690	167	1205	10	11
Others	242	242	0	242	6	9
Types of Buffaloes						
Local	26143	19701	10755	4840	5	8
Murra	4797	3507	2516	908	7	8
Murra cross	431	256	256	0	3	7
Others	919	724	95	628	6	7

Types of Cow/Bufferaloes	Total number of Cow/buffalo	Number of cow/buffalo giving milk	Number of holding reporting giving milk directly to calf	Per cow/buffalo per day average milk (liter)	Duration of cow/buffalovegive milk(Averagemonth)
Commercial holdings					
Types of Cow					
Jersey	1381	1085	39	337	11
Holistin	845	637	18	122	14
Others	2	2	1	0	14
Types of Bufferaloes					
Local	90	72	21	0	6
Murra	56	40	20	0	8

Table 28. Number of holdings reporting use of milk in reference week, sold price and market agreement for cow milk by milking animals, Chitwan

Total of commercial and non-commercial holdings							
Milking animals	Quantity of milk in liter						Per liter milk price if proportion is greater than 0% (Rs.)
	Household consumption	Sold	Processed within holding	Provided to the calf	Destroy	used in other purpose	
	Liter	Liter	Liter	Liter	Liter	Liter	Rupees
Cow	77520	268134	9405	12579	126	335	53
Buffalo	91943	170600	14553	19288	1298	1820	73
Non-commercial holdings							
Milking animals	Quantity of milk in liter						Per liter milk price if proportion is greater than 0% (Rs.)
	Household consumption	Sold	Processed within holding	Provided to the calf	Destroy	used in other purpose	
	Liter	Liter	Liter	Liter	Liter	Liter	Rupees
Cow	76039	239602	9228	11332	0	235	53
Buffalo	91858	169943	14553	19288	1298	1820	74
Commercial holdings							
Milking animals	Quantity of milk in liter						Per liter milk price if proportion is greater than 0% (Rs.)
	Household consumption	Sold	Processed within holding	Provided to the calf	Destroy	used in other purpose	
	Liter	Liter	Liter	Liter	Liter	Liter	Rupees
Cow	1481	28532	177	1247	126	101	53
Buffalo	85	657	0	0	0	0	72

Table 29. Number of holdings reporting eggs laying poultry and eggs production during reference period by type of poultry, Chitwan

Total of commercial and non-commercial holdings				
Types of Poultry	Number of holding reporting	Number of Poultry	Number of eggs produced	Average days of egg production
Total	25842	244192	18517304	
Layers	1640	98341	15875799	20
Giriraj (Koiler)	9005	27443	562658	25
Local chicken	17193	79448	1710153	21
Duck	8094	38960	368694	15

Table 30. Number of eggs used by the holdings during reference period, Chitwan

	Total	Non-commercial holdings	Commercial holdings
	Number of eggs		
Number of eggs sold	252173564	15348497	236825067
Number of eggs used for hatching	126240638	910608	125330030
Number of eggs for own use	1965606	1215812	749794
Number of loss eggs	28038052	700766	27337286
Number of eggs for other used	1662641	131624	1531017
Per egg price in Rs. (Average)			8

Table 31. Number of holdings reporting major feeding practices and source of feed used by types of livestock, Chitwan

Total of commercial and non-commercial holdings									
Livestock type	Number of holdings reporting livestock type	Major feeding practice				Source of feed used			
		Only grazing	Mainly grazing, with some feeding	Mainly feeding, with some grazing	Only feeding	Product of holding	Common pasture	Purchased	Exchanged
		Number of holdings				Number of holdings			
Cattle	42882	2074	40344	463	0	40647	4834	32463	179
Buffaloes	33406	1019	32382	5	0	31569	2276	26746	168
Goats	41343	3263	37691	389	0	39632	7019	30081	239
Poultry	35266	2502	9036	16012	7716	25004	7162	23892	222
		Crops and agro-industrial by-products	Mainly grazing, with some feeding	Swill and household wastes	Forages, including roughages				
Pigs	2109	771	64	457	817	2011	399	1129	9
Non-commercial holdings									
Cattle	42438	2074	39902	462		40289	4832	32021	175

Livestock type	Number of holdings reporting livestock type	Major feeding practice				Source of feed used			
		Only grazing	Mainly grazing, with some feeding	Mainly feeding, with some grazing	Only feeding	Product of holding	Common pasture	Purchased	Exchanged
		Number of holdings				Number of holdings			
Buffaloes	33346	1019	32327			31527	2260	26686	168
Goats	41153	3236	37528	389		39458	6918	29915	239
Poultry	34588	2502	9036	15982	7068	24343	7085	23892	222
		Crops and agro-industrial by-products	Mainly grazing, with some feeding	Swill and household wastes	Forages, including roughages				
Pigs	2074	771	64	444	795	1989	399	1094	0
Commercial holdings									
Cattle	444	0	443	1	0	358	1	442	3
Buffaloes	60	0	55	5	0	42	16	60	0
Goats	190	27	163	0	0	174	101	166	0
Poultry	678	0	0	30	648	661	77	0	0
		Crops and agro-industrial by-products	Mainly grazing, with some feeding	Swill and household wastes	Forages, including roughages				
Pigs	35	0	0	13	22	22	0	35	9

Table 32. Number of holdings reporting animal house (shed) management by type of livestock, Chitwan

Total of commercial and non-commercial holdings									
Livestock type	Number of holdings reporting livestock type	Well managed	Semi managed	Unmanaged		Well managed	Semi managed	Unmanaged	
		Number of holding				Percent			
Cattle	42882	5627	31338	5917		13.1%	73.1%	13.8%	
Buffaloes	33406	2106	28240	3060		6.3%	84.5%	9.2%	
Pig	2109	76	1174	859		3.6%	55.7%	40.7%	
		Shelter	Traditional barns or building	Open	Other	Shelter	Traditional barns or building	Open	Other
Goat	41343	3891	30225	7007	220	9.4%	73.1%	16.9%	0.5%
Non-Commercial holdings									
Cattle	42438	5458	31086	5894		12.9%	73.3%	13.9%	
Buffaloes	33346	2080	28206	3060		6.2%	84.6%	9.2%	
Pig	2074	58	1166	850		2.8%	56.2%	41.0%	
		Shelter	Traditional barns or building	Open	Other	Shelter	Traditional barns or building	Open	Other
Goat	41153	3786	30140	7007	220	9.2%	73.2%	17.0%	0.5%
Commercial holdings									
Cattle	444	169	252	23		38.0%	56.8%	5.2%	
Buffaloes	60	26	34	0		43.4%	56.6%	0.0%	
Pig	35	18	9	9		50.5%	24.8%	24.8%	
		Shelter	Traditional barns or building	Open	Other	Shelter	Traditional barns or building	Open	Other
Goat	190	105	85	0	0	55.3%	44.7%	0.0%	0.0%

Table 33. Number of holding, hive and production of honey and wax by types of Bee during reference period, Chitwan

Total of commercial and non-commercial holdings					
Type of Bee	Number of holding	Number of hive in reference period	Number of hive in enumeration day	Quantity of honey production (kg)	Quantity of wax production (kg)
Total	1632	24313	21842	479955	2302
Local	1276	4438	4436	37893	1
Improved	330	19875	17406	442062	2301
Non-Commercial holdings					
Total	1466	16079	16176	268293	24
Local	1254	4415	4415	37760	0
Improved	212	11664	11761	230534	24
Commercial holdings					
Total	166	8235	5666	211662	2278
Local	22	23	21	133	1
Improved	118	8211	5645	211528	2276

Table 34. Number of holding, number and area of pond and production of fish and sold quantity and average price per kilogram by type of fish, Chitwan

Total of commercial and non-commercial holdings						
	Number of holdings	Number of Pond			Area of pond (Ha.)	
		Total	For Bhura production	For fish keeping		
Fish Farming on the holdings	2268	3840	1124	2717	549.0	
Type of fish (Race)	Number of toddlers	Quantity of Production (kg)	Sold quantity (kg)	Average Per kilogram Sale price (Rs.)	Quantity of household consumption(kg)	Quantity of loss by disaster
Carp	30503566	1328482	1051021	217	57501	219960
Mangur	92200	55391	47328	130	8063	0
Others	2549465	916737	873159	230	34515	9818

Table 35. Share of household's total income accounted for by agricultural income and number of holding reporting month for sufficient from crop/livestock product on the holdings, Chitwan

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	% of total holdings	Number of holdings	% of total holdings	Number of holdings	% of total holdings
Share of household income accounted for by agricultural (crop and livestock) income						
None/close to 0 (less than 10%)	7648	7.0%	7562	7.1%	86	4.0%
Less than half (10%-39%)	27725	25.5%	27320	25.7%	405	18.6%
About half (40% to 59%)	27253	25.1%	26876	25.3%	377	17.3%
Most/almost all (60%-99%)	30371	28.0%	29750	28.0%	621	28.5%
All (100%)	15571	14.3%	14885	14.0%	686	31.5%
Total	108567	100.0%	106393	100.0%	2174	100.0%
Period of month sufficient from agriculture (Crops and livestock) income						
1 to 3 Months	15412	15.3%	15412	15.3%	-	-
4 to 6 Months	19998	19.9%	19998	19.9%	-	-
7 to 9 Months	8351	8.3%	8351	8.3%	-	-
10 to 12 Months	56912	56.5%	56912	56.5%	-	-
Total	100674	100.0%	100674	100.0%	-	-
Contribution of agricultural income compared to the previous year						
Similar	64866	59.7%	64117	60.3%	749	34.4%
Higher	19129	17.6%	18656	17.5%	473	21.8%
Lower	19094	17.6%	18224	17.1%	871	40.0%
Not applicable	5479	5.0%	5397	5.1%	82	3.8%
Total	108567	100.0%	106393	100.0%	2174	100.0%
Status of Profit or Loss in the holding during last three years						
Loss all three years	5082	4.9%	4936	4.9%	146	7.0%
One years profit	32844	31.9%	32447	32.1%	397	19.0%
Two years profit	22541	21.9%	21974	21.8%	567	27.1%
Profit all three years	36380	35.3%	35487	35.1%	893	42.7%
Not applicable	6242	6.1%	6152	6.1%	90	4.3%
Total	103089	100.0%	100996	100.0%	2092	100.0%

Table 36. Other activities of the holding by holdings reporting, sold income from other activities and contribution compared with the previous year, Chitwan

Total of commercial and non-commercial holdings							
Other Activities on the holdings	Number of holdings	Sold Income from other Activities (Rs.)	Contribution in total income (%)		Contribution compared with the previous year		
			Less than 50%	50% and above	Equal	Increased	Decreased
					Number of holdings		
Total number of holdings	108570						
Holdings reporting at least one other activity	1617						
Holdings without other activities	106954						
Other activities of the holding							
Processing of cereal crops		16318000	126	7	0	7	126
Milling activities		358544	40	0	76	0	0
Processing and preserving of fruit and vegetables		0	0	0	36	0	0
Manufacture of crude vegetable oil		0	0	0	0	0	0
Manufacture / distillation of local alcohol		136153635	36	151	563	0	0
Manufacture of tobacco products		0	0	0	0	0	0
Processing and preserving meat		37981519	161	0	102	58	0
Manufacture of dairy products		1345381	9	7	8	8	0
Selling of holding's products at the market/shop		14952973	8	74	7	11	64
Production of forestry products		0	0	0	0	0	0
Production, processing and preserving of fish		6401250	68	0	68	0	0
Production of renewable energy		0	0	0	0	0	0
Contractual work for other holdings using the production means		342000	9	0	1	7	0
Accommodation, homestay, restaurant, catering and educational		51567271	42	208	140	110	0
Making handicrafts		336000	37	0	81	0	0
Other		33592333	257	15	125	111	37
Non-Commercial holdings							
Total number of holdings	106393						
Holdings reporting at least one other activity	1522						
Holdings without other activities	104871						
Other activities of the holding							
Processing of cereal crops		12618000	126	0	0	0	126
Milling activities		357725	36	0	72	0	0

Other Activities on the holdings	Number of holdings	Sold Income from other Activities (Rs.)	Contribution in total income (%)		Contribution compared with the previous year		
			Less than 50%	50% and above	Equal	Increased	Decreased
					Number of holdings		
Processing and preserving of fruit and vegetables		0	0	0	36	0	0
Manufacture of crude vegetable oil			0	0	0	0	0
Manufacture / distillation of local alcohol		136153635	36	151	563	0	0
Manufacture of tobacco products			0	0	0	0	0
Processing and preserving meat		36631519	156	0	98	58	0
Manufacture of dairy products			0	0	0	0	0
Selling of holding's products at the market/shop		7953125	0	64	0	0	64
Production of forestry products			0	0	0	0	0
Production, processing and preserving of fish		5726250	64	0	64	0	0
Production of renewable energy			0	0	0	0	0
Contractual work for other holdings using the production mea			0	0	0	0	0
Accommodation, homestay, restaurant, catering and educational		51567271	42	208	140	110	0
Making handicrafts		336000	37	0	81	0	0
Other		27518333	220	0	110	110	0

Commercial holdings

Total number of holdings	2177						
Holdings reporting at least one other activity	95						
Holdings without other activities	2083						
Other activities of the holding							
Processing of cereal crops		3700000	0	7	0	7	0
Milling activities		819	5	0	5	0	0
Processing and preserving of fruit and vegetables			0	0	0	0	0
Manufacture of crude vegetable oil			0	0	0	0	0
Manufacture / distillation of local alcohol			0	0	0	0	0
Manufacture of tobacco products			0	0	0	0	0
Processing and preserving meat		1350000	5	0	5	0	0
Manufacture of dairy products		1345381	9	7	8	8	0

Other Activities on the holdings	Number of holdings	Sold Income from other Activities (Rs.)	Contribution in total income (%)		Contribution compared with the previous year		
			Less than 50%	50% and above	Equal	Increased	Decreased
					Number of holdings		
Selling of holding's products at the market/shop		6999848	8	10	7	11	0
Production of forestry products			0	0	0	0	0
Production, processing and preserving of fish		675000	5	0	5	0	0
Production of renewable energy			0	0	0	0	0
Contractual work for other holdings using the production mea		342000	9	0	1	7	0
Accommodation, homestay, restaurant, catering and educational			0	0	0	0	0
Making handicrafts			0	0	0	0	0
Other		6074000	37	15	15	1	37

Table 37. Number of holdings reporting participation in farmers' associations, commercial or producer cooperatives, or bank account during reference period, Chitwan

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	Percent	Number of holdings	Percent	Number of holdings	Percent
Participation in a farmers' associations or co-operative						
Yes	53648	49.4%	51838	48.7%	1810	83.3%
No	54920	50.6%	54556	51.3%	364	16.7%
Total	108567	100.0%	106393	100.0%	2174	100.0%
Holding has a bank account						
Yes	80266	73.9%	78303	73.6%	1962	90.2%
No	28302	26.1%	28090	26.4%	212	9.8%
Total	108567	100.0%	106393	100.0%	2174	100.0%
Holding has received credit facility for agriculture						
Yes	9740	9.0%	8841	8.3%	899	41.4%
No	98827	91.0%	97552	91.7%	1275	58.6%
Total	108567	100.0%	106393	100.0%	2174	100.0%
Holding has received agriculture loan with interest subsidy						
Yes	2263	23.2%	1775	20.1%	487	54.2%
No	7477	76.8%	7066	79.9%	412	45.8%
Total	9740	100.0%	8841	100.0%	899	100.0%
Holding has received grant/convenient support from government						
Yes	1786	1.6%	1450	1.4%	335	15.4%
No	106782	98.4%	104943	98.6%	1839	84.6%
Total	108567	100.0%	106393	100.0%	2174	100.0%

Table 38. Number of holdings reporting taking insurance for agriculture activities during reference period, Chitwan

Agricultural Activities	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	Percent	Number of holdings	Percent	Number of holdings	Percent
Insurance for following agricultural activities						
Crop production	724	0.7%	658	0.6%	66	3.0%
Livestock production	20345	18.7%	19778	18.6%	568	26.1%
Fish farming	160	0.1%	151	0.1%	9	0.4%
Other	1454	1.3%	1369	1.3%	86	3.9%
No Insurance	86279	79.5%	84833	79.7%	1446	66.5%
Total number of holdings	108567	100.0%	106393	100.0%	2174	100.0%

Table 39. Severe holding shocks reported by all holdings, and household shocks reported by holdings in the household sector, holdings reporting by rank of shock's severity, Chitwan

Total of commercial and non-commercial Holdings								
Particulars	Holdings reporting severe shocks hitting the holding or household		Severity of shock					
			Ranked as most severe		Ranked as second-most severe		Ranked as third-most severe	
	Number of holdings	% of holdings reporting shocks	Number of holdings	% of holdings reporting shocks	Number of holdings	% of holdings reporting shocks	Number of holdings	% of holdings reporting shocks
Holdings reporting any severe shock hitting the holding or household	10110	100%						
Production shocks								
Drought			3041	30.1%	339	3.4%		
Erratic rains					628	6.2%		
Floods			722	7.1%	3	0.0%	151	1.5%
Hail stone			555	5.5%	155	1.5%		
Fire			32	0.3%				
Loss from wildlife			3165	31.3%	236	2.3%		
Sink			318	3.1%	213	2.1%		
Unusually low prices for agricultural output			242	2.4%	108	1.1%	2	0.0%
Storm			336	3.3%	510	5.0%		
Landslides			157	1.6%	36	0.4%		
Extreme temperature			3	0.0%			22	0.2%
Unusually high level of crop diseases			1092	10.8%			47	0.5%
Unusually high level of livestock diseases			395	3.9%	191	1.9%		

Particulars	Holdings reporting severe shocks hitting the holding or household		Severity of shock					
			Ranked as most severe		Ranked as second-most severe		Ranked as third-most severe	
	Number of holdings	% of holdings reporting shocks	Number of holdings	% of holdings reporting shocks	Number of holdings	% of holdings reporting shocks	Number of holdings	% of holdings reporting shocks
Unusually high prices for agricultural inputs			22	0.2%	105	1.0%		
Theft of agricultural assets, outputs, money or valuables			1	0.0%		0.0%		
Other effect on production			1	0.0%	1	0.0%		
Household shocks								
Serious illness or accident or death of household member(s)			8	0.1%				
Break-up of household								
Conflict or violence								
Reduction in the earnings of salaried household member(s) or					47	0.5%		
Unusually high food prices						0.0%	1	0.0%
Other effect on agri. holding			37	0.4%	15	0.1%		

Non-Commercial Holdings

Holdings reporting any severe shock hitting the holding or household	9767	100%						
Production shocks								
Drought			3041	31.1%	339	3.5%		
Erratic rains					613	6.3%		
Floods			698	7.1%			151	1.5%
Hail stone			535	5.5%	151	1.5%		
Fire								
Loss from wildlife			3151	32.3%	236	2.4%		
Sink			318	3.3%	213	2.2%		
Unusually low prices for agricultural output			213	2.2%	85	0.9%		
Storm			309	3.2%	509	5.2%		
Landslides			157	1.6%	36	0.4%		
Extreme temperature								
Unusually high level of crop diseases			1062	10.9%			47	0.5%
Unusually high level of livestock diseases			282	2.9%	188	1.9%		
Unusually high prices for agricultural inputs					105	1.1%		
Theft of agricultural assets, outputs, money or valuables								
Other effect on production								

Particulars	Holdings reporting severe shocks hitting the holding or household		Severity of shock					
			Ranked as most severe		Ranked as second-most severe		Ranked as third-most severe	
	Number of holdings	% of holdings reporting shocks	Number of holdings	% of holdings reporting shocks	Number of holdings	% of holdings reporting shocks	Number of holdings	% of holdings reporting shocks
Household shocks								
Serious illness or accident or death of household member(s)								
Break-up of household								
Conflict or violence								
Reduction in the earnings of salaried household member(s) or					47	0.5%		
Unusually high food prices								
Other effect on agri. holding								
Commercial Holdings								
Holdings reporting any severe shock hitting the holding or household	343	100%						
Production shocks								
Drought								
erratic rains					15	4.3%		
Floods			24	7.0%	3	0.9%		
Hail stone			19	5.6%	4	1.2%		
Loss from wildlife			32	9.2%				
Fire			14	4.1%				
Sink								
Unusually low prices for agricultural output			28	8.2%	23	6.8%	2	0.7%
Storm			27	8.0%	1	0.3%		
Landslides								
Extreme temperatures			3	0.8%			22	6.4%
Unusually high level of crop diseases			30	8.8%				
Unusually high level of livestock diseases			112	32.7%	3	0.8%		
Unusually high prices for agricultural inputs			22	6.4%				
Theft of agricultural assets, outputs, money or valuables			1	0.3%				
Other effect on production			1	0.3%	1	0.3%		

Particulars	Holdings reporting severe shocks hitting the holding or household		Severity of shock					
			Ranked as most severe		Ranked as second-most severe		Ranked as third-most severe	
	Number of holdings	% of holdings reporting shocks	Number of holdings	% of holdings reporting shocks	Number of holdings	% of holdings reporting shocks	Number of holdings	% of holdings reporting shocks
Household shocks								
Serious illness or accident or death of household member(s)			8	2.4%				
Break-up of household								
Conflict or violence								
Reduction in the earnings of salaried household member(s) or								
Unusually high food prices							1	0.4%
Other effect on agri. holding			37	10.8%	15	4.4%		

Table 40. Number and percent of holdings reporting main response of holdings to shock. Chitwan

Holding's main response to shocks	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	% of holding	Number of holdings	% of holdings	Number of holdings	% of holdings
Sold land and/or buildings	27	0.3%			27	8.0%
Sold crops and/or livestock	1054	10.4%	1006	10.3%	48	14.0%
Sold holding's other assets						
Found other work, not on the holding	589	5.8%	589	6.0%		
Received help from government	18	0.2%			18	5.2%
Received help from NGOs or other organizations						
Reduced expenses for the holding	180	1.8%	180	1.8%		
Received help from relatives	94	0.9%	94	1.0%		
Reduced expenses for the household	660	6.5%	652	6.7%	8	2.2%
Received loan	539	5.3%	444	4.5%	95	27.5%
Received compensation from insurance	24	0.2%			24	6.9%
Past savings	4070	40.3%	4000	41.0%	70	20.4%
None of the above	2856	28.2%	2802	28.7%	54	15.7%
Total	10110	100.0%	9767	100.0%	343	100.0%

Table 41. Number and percent reporting shocks, recovery, ability to cope with shocks, severity of shocks compared to the past, Chitwan

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	% of total holdings	Number of holdings	% of total holdings	Number of holdings	% of total holdings
Total number of holdings reporting shocks	10110	100.0%	9767	100.0%	343	100.0%
Holding has fully recovered from the shocks						
Yes	7884	78.0%	7734	79.2%	150	43.7%
No	2227	22.0%	2033	20.8%	194	56.5%
Holding is now better able to cope with the shocks						
Yes	5981	59.2%	5824	59.6%	157	45.7%
No	4129	40.8%	3942	40.4%	187	54.4%
General perception of the level of severity of shocks compared to the past						
Similar	5092	50.4%	4993	51.1%	98	28.7%
Higher	2470	24.4%	2371	24.3%	99	28.8%
Lower	2549	25.2%	2402	24.6%	146	42.6%

Table 42. Number of holdings, agricultural machinery and loss by disaster reporting in the day of enumeration by types of agricultural machinery or equipment, Chitwan

Agricultural Machinery / equipment	Total			Non-Commercial holdings			Commercial holdings		
	Number of holdings	Total numbers of machinery/equipment	Total number of loss by disaster	Number of holdings	Total numbers of machinery/equipment	Total number of loss by disaster	Number of holdings	Total numbers of machinery/equipment	Total number of loss by disaster
Iron plough	6854	8132	826	6796	8056	826	58	75	0
Power tiller/Mini tiller	1243	1311	23	1117	1117	0	126	193	23
SAF cutter	842	845	271	762	762	271	80	83	0
Milking machine	17	22	0	0			17	22	0
Sallow tube well	16960	16979	216	16685	16685	188	275	294	27
Deep boring	7196	7127	5	6833	6675	0	363	452	5
Rower pum2 / DHIKI pump	1603	1603	0	1557	1557	0	46	46	0
Tractor	2110	2677	148	1992	2538	148	118	138	0
Thressor	541	541	0	497	497	0	44	44	0
Pump set	20559	19971	1840	20056	19374	1780	503	597	60
Cart	388	373	0	365	365	0	23	9	0
Sprayer	27620	32308	2914	26471	30151	2843	1149	2157	71
Combined harvester	1	1	0	0			1	1	0
Other instrument/ tools	97170	672659	9543	95414	655044	9302	1756	17615	241

Table 43. Number of holdings and number of agriculture hire worker for agriculture activities by sex and types of workers during reference period, Chitwan

Total of commercial and non-commercial holdings							
Particulars	Number of holdings	Types of Workers					
		Permanent Workers		Temporary Workers		Exchange Labour	
		Male	Female	Male	Female	Male	Female
Number of holdings reporting agriculture hire worker for agriculture activities	78262						
Agriculture Workers							
Family member		50942	67018				
Manager/Administrators		335	209	22686	89211		
Skill workers		2792	3141	64573	81009	21545	27935
Unskilled workers		7208	24714	904442	1380922	78430	327756
Total		61278	95081	991701	1551142	99975	355691
Non-commercial holdings							
Number of holdings reporting agriculture hire worker for agriculture activities	76805						
Agriculture Workers							
Family member		49730	65903				
Manager/Administrators		165	165	22682	89211		
Skill workers		2372	2972	57689	80074	20351	27935
Unskilled workers		5862	23779	820585	1321268	78209	326203
Total		58129	92819	900957	1490552	98561	354139
Commercial holdings							
Number of holdings reporting agriculture hire worker for agriculture activities	1456						
Agriculture Workers							
Family member		1213	1115				
Manager/Administrators		170	43	4	0		
Skill workers		420	169	6884	936	1194	0
Unskilled workers		1346	935	83857	59654	220	1553
Total		3148	2262	90744	60590	1414	1553

Table 44. Number and percent of holdings reporting the shortage of worker during peak period by main response, Chitwan

particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	% of total holdings	Number of holdings	% of total holdings	Number of holdings	% of total holdings
Number of holdings reporting the shortage of workers during the peak periods	27551	100.0%	26994	100.0%	558	100.0%
Main response for the shortage of workers during the peak periods						
Rented on contract to other	6228	22.6%	6205	23.0%	23	4.1%
Only partial activities was carried on	446	1.6%	429	1.6%	17	3.1%
By increasing own engagement on the holding	19651	71.3%	19166	71.0%	485	87.0%
Prefer less labor required agriculture activities	807	2.9%	797	3.0%	10	1.8%
Using modern machine	150	0.5%	127	0.5%	23	4.1%
Stopping the activities	270	1.0%	270	1.0%	0	0.0%

Table 45. Housing Information of the agriculture household Chitwan

Type of outer wall	Number of holdings	% of total holdings
Mud bonded brick/stone	14154	13.3%
Cemented bonded brick/stone	86409	81.2%
Wood/plank	2893	2.7%
Bamboo	1469	1.4%
Unbaked brick	339	0.3%
Galvanized iron	149	0.1%
Others	980	0.9%
Total	106393	100.0%
Type of room		
Galvanized iron	48722	45.8%
Cemented (RCC)	53782	50.6%
Thatch/ straw	2471	2.3%
Tile/ KAPATA/JHINGATI	1018	1.0%
Stone/Slate	337	0.3%
Wood/Plank	63	0.1%
Total	106393	100.0%
Type of floor		
Mud	14011	13.2%
Plank/Bamboo	798	0.8%
Brick/Stone	876	0.8%
Ceramic tile	563	0.5%
Cemented	89986	84.6%
Others	159	0.1%
Total	106393	100.0%
Have separate kitchen room		
Yes	92988	87.4%
No	13406	12.6%
Total	106393	100.0%

Main source of drinking water	Number of holdings	% of total holdings
Tap water (within compound)	43078	40.5%
Tap water (Outside compound)	29513	27.7%
Tubewell/Handpump	21585	20.3%
Covered Inar/Kuwa	1088	1.0%
Open Inar/Kuwa	254	0.2%
Spring water	10366	9.7%
River/Stream	193	0.2%
Others	315	0.3%
Total	106393	100.0%
Fuel used for cooking		
Timber/wood	15428	14.5%
LP Gas	82782	77.8%
GUTHA	220	0.2%
Bio-gas	7868	7.4%
Others	95	0.1%
Total	106393	100.0%
Fuel used for lighting		
Electricity	98276	92.4%
Kerosene	173	0.2%
Bio-gas	503	0.5%
Solar	7396	7.0%
Others	44	0.0%
Total	106393	100.0%
Type of toilet		
Flush toilet (public sewerage)	628	0.6%
Flush toilet (septic tank)	79740	74.9%
Ordinary	25388	23.9%
No toilet	638	0.6%
Total	106393	100.0%

Table 46. Number and percent of holding reporting household amenities and agriculture equipment in the household, Chitwan

Household amenities and agriculture equipment	Number of holdings	% of total holdings
Total number of holdings	106393	100.0
Mobile	105730	99.4%
Telephone	12720	12.0%
Radio	21958	20.6%
Television	82557	77.6%
Transportation vehicle	52063	48.9%
Internet	33466	31.5%
Computer	21287	20.0%
Agriculture equipment	83455	78.4%
None at all	520	0.5%

Table 47. Number and percent of holdings reporting types of information used on the holding during the reference period, Chitwan

Types of Information used for	Number of holdings	% of total holdings
Total number of holdings	106393	100.0
Use of fertilizers and/or plant protection products	33163	31.2%
Prices of outputs	29941	28.1%
Crop health issues	32266	30.3%
Crop types to be produced	13835	13.0%
Weather forecasts affecting production	8036	7.6%
Livestock health issues	19737	18.6%
Livestock feed issues	22997	21.6%
Livestock breeding	12063	11.3%
Availability of inputs (including machinery and equipment)	2111	2.0%
Prices of inputs	3510	3.3%
Crop rotation and other sustainable agricultural practices	4156	3.9%
Other environmental information	491	0.5%
Value add/ chain (storage, processing, packaging etc.)	272	0.3%
No any information used	50081	47.1%

Table 48. Number and percent of holding reporting main source of information about information for the holding during the reference period, Chitwan

Main Source of Information	Number of holdings	% of total holdings
Total number of holdings	106393	100.0
Government or extension service	11767	11.1%
Other individual farmer	46526	43.7%
Farmers' group or association	19716	18.5%
NGO or non-governmental project	583	0.5%
Trader or market stakeholder	6227	5.9%
Aggravate	36986	34.8%
Others	638	0.6%

Table 49. Number and percent of holding reporting source or medium used for getting information about agriculture, Chitwan

Sources/Medium used for getting information	Number of holdings	% of total holdings
Total number of holdings	106393	100.0
Face-to-face discussions	55357	52.0%
Phone calls	9301	8.7%
Radio	4783	4.5%
Television	22856	21.5%
Internet or SMS	5664	5.3%
Press or newspapers	3582	3.4%
Agriculture Apps	870	0.8%
Other	181	0.2%

Table 50. Number of holdings and area reporting by type of tillage used on outdoor arable land covered by temporary crops, Chitwan

Particulars	Number of holdings	Area (Ha.)
Outdoor arable land covered by temporary crops	102124	29698.6
Type of tillage method		
Conventional tillage	29161	2802.2
Mechanized tillage	80209	27852.9
Zero-tillage (no tillage)	5591	384.0
Type of soil cover during the longest intercropping period		
Bare soil	46945	13727.1
Plant residues	11074	2339.5
Next seasonal crop	92496	26275.2

Table 51. Number of holdings and area reporting crop rotation being practiced on the holding during reference period, Chitwan

Crop rotation on the holdings	Number of holdings	% of total
Yes	55192	52.9%
No	49102	47.1%
Total	104294	100.0%
Practices and features used on the holdings during the reference period		
Fallowing or shifting cultivation	4852	4.7%
Vegetative strips	5068	4.9%
Liming	4047	3.9%
Terraces	7155	6.9%
Wall and barrier/fence/hedge	34312	32.9%
Rotational grazing	188	0.2%
No any practices	63974	61.3%

Table 52. Number and percent of holdings reporting soil test during the reference period, Chitwan

Particulars	Number of holdings	Percent
Soil test was conducted during the reference period		
Yes	7446	7.1%
No	96849	92.9%
Total	104294	100.0%
Soil test was conducted in the past five years		
Yes	3207	3.3%
No	93642	96.7%
Total	96849	100.0%

Table 53. Number and percent of holding reporting practice made by holding for improvement after soil analysis, Chitwan

Particulars	Number of holdings	Percent
Total holding reporting soil test/analysis	10652	100.0%
Soil liming	5276	49.5%
Quality organic manure	2674	25.1%
Balance chemical fertilizer	2321	21.8%
Green manure	553	5.2%
Others	148	1.4%
No any practices	3870	36.3%

Table 54. Number and percent of holdings reporting accumulations of water on soil and changes in soil, Chitwan

During heavy rain, do large volumes of water accumulate on the agricultural soil surface?	Number of holdings	Percent
Yes	22752	21.8%
No	81542	78.2%
Total	104294	100.0%
When water accumulates on the soil surface and runs, how does it appear?		
The water is clear	10358	45.5%
The water is not clear and/or is brown because it contains a lot of soil	10937	48.1%
Don't know	1458	6.4%
Total	22752	100.0%
Type of soil changes observed during last five years		
Change in soil colour	6927	6.6%
Easyness to plough or work in soil	19839	19.0%
Difficulties to plough or work in soil	9185	8.8%
Easyness to emerge crops after planting	15528	14.9%
Difficulties to emerge crops after planting	19631	18.8%
Change in the amount of stones present in the soil	1052	1.0%
None of above	58506	56.1%
Total number of holdings	104294	100.0%

Table 55. Number, percent and are of holding reporting soil degradation threats on the holding in last three years by types of soil degradation, Chitwan

Particulars	Number of holdings	Percent
Total number of holdings reporting	104294	100.0%
Types of soil degradation		
No soil degradation	38056	36.5%
Acidity of soil	4048	3.9%
Imbalance use of chemical fertilizer	6538	6.3%
Soil erosion (loss of topsoil through wind or water erosion)	967	0.9%
Waterlogging, including by floods	1044	1.0%
Other	1928	1.8%
Don't know	53287	51.1%
Area in hectare		
Area of the holding affected by any of the threats in last three years		2908.1

Table 56. Number of holding reporting irrigation crops on the holding over the last three years, Chitwan

Holding reporting irrigation crops on the holding over the last three years	Number of holdings	Percent
Yes	82512	84.1%
No, there is no irrigation available	14840	15.1%
No, I can't afford irrigation	158	0.2%
No, I don't need irrigation	608	0.6%
Total	98118	100.0%

Table 57. Number of holding reporting by method used for irrigation on the holdings, Chitwan

Method used for irrigation	Number of holdings	Percent
Total number of holding reporting irrigation	82512	100.0%
Method used for irrigation		
Surface irrigation	56580	68.6%
Sprinkler irrigation/Spray Irrigation	6617	8.0%
Drip irrigation	664	0.8%
Other	18926	22.9%

Table 58. Number of holding reporting source of Irrigation during reference period, Chitwan

Sources of Irrigation	Number of holdings	Percent
Total number of holding reporting irrigation	82512	100.0%
Source of irrigation		
Underground Water	34859	42.2%
Surface water of Low land (KHET)	2495	3.0%
Surface water outside Low land (KHET)	5900	7.2%
Dam/Reservoir/Canal	21731	26.3%
Tap water	18989	23.0%
Rainfall	20080	24.3%
Harvested rainwater	615	0.7%
Other source	7550	9.1%

Table 59. Number of holdings reporting any observation of reduction in water availability from well or other sources over the last three years, Chitwan

Response of the holdings	Number of holdings	Percent
No, water is always available in sufficient quantity	36367	37.1%
Yes, water level in my well(s) is progressively going down	25357	25.8%
Yes, water in river, lake or canal is getting scarce	14222	14.5%
I do not know	22172	22.6%
Total	98118	100.0%

Table 60. Number of holding reporting Irrigation organization with water allocation in the area during the reference period, Chitwan

Organizations dealing with water allocation in the area	Number of holdings	Percent
Yes, and they are working well	7511	7.7%
Yes, but they are not working well	11707	11.9%
No, there are none	55243	56.3%
No, I don't know	23657	24.1%
Total	98118	100.0%

Table 61. Number of holding reporting environmental risks associated with the use of chemical and mineral fertilizer, Chitwan

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holding	Percent	Number of holding	Percent	Number of holding	Percent
Did you know about the environmental risks associated with the use of chemical and mineral fertilizers?						
Yes	59815	60.6%	59364	60.5%	451	86.4%
No	38825	39.4%	38754	39.5%	71	13.6%
Total	98640	100.0%	98118	100.0%	523	100.0%
Effort made to reduce environmental risk						
Yes	28102	47.0%	27806	46.8%	295	65.4%
No	31714	53.0%	31557	53.2%	156	34.6%
Total	59815	100.0%	59364	100.0%	451	100.0%
Type of effort made to reduce environmental risk						
Follow protocols as per extension service	20991	74.7%	20755	74.6%	236	80.0%
Use of balanced compost and chemical fertilizer	24596	87.5%	24344	87.5%	252	85.4%
Use legumes as a cover crop, or multi/crop	3873	13.8%	3847	13.8%	27	9.0%
By animal grazing	783	2.8%	781	2.8%	3	0.9%
Using chemical fertilizer in appropriate time gap	6918	24.6%	6830	24.6%	87	29.6%
Using required qty. of fertilizer by considering soil type	2023	7.2%	1984	7.1%	39	13.4%
Testing of soil once in every 5 years	1234	4.4%	1158	4.2%	77	25.9%
Others	161	0.6%	147	0.5%	13	4.5%
Total	28102	100.0%	27806	100.0%	295	100.0%

Table 62. Number of holdings reporting use of pesticides on the holding during reference period, Chitwan

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holding	Percent	Number of holding	Percent	Number of holding	Percent
Use of pesticides for crop or livestock production						
Yes	62708	63.6%	62303	63.5%	405	77.5%
No	35932	36.4%	35814	36.5%	117	22.5%
Total	98640	100.0%	98118	100.0%	523	100.0%
Type of pesticides used						
Green (safe)	30976	49.4%	30821	49.5%	155	38.2%
Blue (medium)	14862	23.7%	14766	23.7%	97	23.8%
Yellow (strong)	16744	26.7%	16591	26.6%	154	38.0%
Red (very strong)	126	0.2%	126	0.2%	0	0.0%
Total	62708	100.0%	62303	100.0%	405	100.0%
Did the holding take specific measures to protect people from health-related risks?						
Yes	47063	64.8%	46236	65.5%	827	40.3%
No	25567	35.2%	24343	34.5%	1224	59.7%
Total	72630	100.0%	70579	100.0%	2052	100.0%
Type of efforts made to safe from risk of pesticide						
Adherence to label directions for pesticide use	35677	75.8%	34975	75.6%	702	84.9%
Safe disposal of waste (cartons, bottles and bags)	32250	68.5%	31632	68.4%	618	74.8%
Use of safety gear during application	37071	78.8%	36473	78.9%	598	72.3%

Table 63. Number of holding reporting effort made to control crop or livestock related diseases during reference period, Chitwan

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holding	Percent	Number of holding	Percent	Number of holding	Percent
Did holding made effort to control crops or livestock related diseases?						
Yes, Crops related	19767	18.2%	19363	18.2%	404	18.8%
Yes, Livestock/poultry related	10968	10.1%	10007	9.4%	961	44.7%
Yes, Both	17197	15.8%	17087	16.1%	110	5.1%
No	60612	55.8%	59936	56.3%	676	31.4%
Total	108544	100.0%	106393	100.0%	2151	100.0%
Types of efforts adopt in relation to plant pest control						
Total number of holding	36964	100.0%	36450	100.0%	514	100.0%
Adherence to label directions for pesticide	31802	86.0%	31366	86.1%	436	84.8%
Adjustment of planting time	11060	29.9%	10934	30.0%	126	24.5%

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holding	Percent	Number of holding	Percent	Number of holding	Percent
Application of crop spacing	8152	22.1%	8006	22.0%	147	28.5%
Application of crop rotation	13519	36.6%	13410	36.8%	109	21.3%
Application of mixed cropping inter-cropping	1288	3.5%	1279	3.5%	9	1.7%
Perform biological pest control	6388	17.3%	6261	17.2%	127	24.6%
Use of disease resistant/tolerant cultivars	3677	9.9%	3631	10.0%	46	8.9%
Systematic removal of plant parts attacked by pests	5834	15.8%	5740	15.7%	94	18.3%
Maintenance and cleansing of spray equipment after use	2775	7.5%	2631	7.2%	143	27.9%
Plants quarantining	18	0.0%	0	0.0%	18	3.5%
Types of efforts adopt in relation to animal disease control						
Total number of holding	28165	100.0%	27094	100.0%	1071	100.0%
Adherence to label directions for medicine application	26424	93.8%	25464	94.0%	960	89.6%
Perform biological medicine control	12849	45.6%	12559	46.4%	290	27.1%
Adopting pasture rotation to suppress livestock pest populate	2659	9.4%	2617	9.7%	43	4.0%
Maintenance and cleansing of spray equipment after use	5756	20.4%	5191	19.2%	565	52.7%
Animals quarantining	1485	5.3%	1375	5.1%	111	10.3%
Use of disease resistant/tolerant livestock breed	570	2.0%	342	1.3%	228	21.3%

Table 64. Number of holding reporting rice cultivation on the holding during reference period, Chitwan

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holding	Percent	Number of holding	Percent	Number of holding	Percent
Rice cultivation on the holding						
Yes	62025	99.7%	61892	99.7%	133	100.0%
No	213	0.3%	213	0.3%	0	0.0%
Total	62239	100.0%	62105	100.0%	133	100.0%
Frequency of rice cultivating cycles during the reference period						
One time	45044	72.6%	44911	72.3%	133	100.0%
Two time	17195	27.7%	17195	27.7%		
Types of Rice cultivation						
Masino Rice (Fine)	46217	74.5%	46085	74.2%	132	99.1%
Motto Rice (Coarse rice)	31000	50.0%	30984	49.9%	17	12.6%
Irrigation methods and water regimes used during the growing period of RICE						
Total number of holdings	62239	100.0%	62105	100.0%	133	100.0%
Irrigated, continue flow	17235	27.7%	17235	27.8%	0	0.0%

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holding	Percent	Number of holding	Percent	Number of holding	Percent
Irrigated, Dry/flow	36995	59.4%	36862	59.4%	133	100.0%
According to rainfall	8009	12.9%	8009	12.9%	0	0.0%
Types of compost (organic) fertilizer added to the soil before the cultivation of rice during the reference period.						
Farm yard manure	36691	59.0%	36683	59.1%	8	6.1%
Compost fertilizer	2883	4.6%	2883	4.6%		
Green manure	880	1.4%	880	1.4%		
Others	1221	2.0%	1221	2.0%		
Not use at all	24753	39.8%	24628	39.7%	125	93.9%
Rice planting techniques used during the reference period.						
Plantation	53696	86.3%	53570	86.3%	126	94.4%
Seed spread	0	0.0%	0	0.0%	0	0.0%
Mixed	8543	13.7%	8535	13.7%	7	5.6%

Table 65. Number of holdings reporting veterinary service used and types of veterinary service used during reference period by types of livestock/poultry, Chitwan

Total of commercial and non-commercial Holdings						
Livestock/Poultry	Number of holdings	Veterinary services used on the holdings		Type of veterinary service used by agriculture holdings		
		Yes	No	Reproduction	Curative	Preventive
Cattle	42898	28492	14407	16165	25363	11235
Buffalo	33543	20334	13209	7343	19265	10719
Goat	41352	21121	20231	6180	20385	9869
Pig	2109	401	1708	67	343	278
Poultry	35285	5956	29329	454	5956	3869

Table 66. Number of holdings reporting method of conceive and main service provider of reproduction service used by the holdings during reference period by types of livestock/poultry, Chitwan

Total of commercial and non-commercial Holdings							
Livestock/Poultry	Method of conceive for livestock		Main service provider of reproduction service				
	Natural fertilization method	Artificial fertilization method	Pvt. veterinary technician	Govt. veterinary technician	Own management	Rural livestock health worker	Others
Cattle	483	15682	13144	1970	581	302	168
Buffalo	3109	4234	5779	715	572	151	126
Goat	4731	1449	4750	151	799	302	178
Pig	67	0	0	5	63	0	0
Poultry	447	8	316	0	139	0	0

Livestock/Poultry	Method of conceive for livestock		Main service provider of reproduction service				
	Natural fertilization method	Artificial fertilization method	Pvt. veterinary technician	Govt. veterinary technician	Own management	Rural livestock health worker	Others
Non-Commercial Holdings							
Cattle	470	15312	12903	1882	538	302	158
Buffalo	3057	4194	5752	697	525	151	126
Goat	4715	1426	4726	151	785	302	178
Pig	58	0	0	0	58	0	0
Poultry	419	0	302	0	117	0	0
Commercial Holdings							
Cattle	13	370	240	88	44	0	11
Buffalo	52	40	27	18	47	0	0
Goat	16	23	25	0	14	0	0
Pig	9	0	0	5	5	0	0
Poultry	28	8	14	0	22	0	0

Table 67. Number of holdings reporting antibiotics and growth promoter used by holding during reference period by types of livestock/poultry, Chitwan

Livestock/Poultry	Total of commercial and non-commercial Holdings					
	Used of antibiotics			Used of Growth promoter		
	Yes	No	Don't know	Yes	No	Don't know
Cattle	12526	28537	1835	4199	37939	761
Buffalo	10761	19698	3083	3818	28715	1010
Goat	10892	27706	2754	9720	30056	1576
Pig	228	1787	94	219	1832	58
Poultry	8445	22624	4216	7514	25185	2586

Table 68. Number of holdings reporting livestock and poultry housing condition on the holding during reference period, Chitwan

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	Percent	Number of holdings	Percent	Number of holdings	Percent
Have livestock kept in residential buildings						
Yes	17912	21.1%	17863	21.4%	49	3.4%
No	67020	78.9%	65633	78.6%	1387	96.6%
Total	84932	100.0%	83496	100.0%	1436	100.0%
Have ventilation system in buildings of poultry on the holding						
Yes	6580	7.7%	6054	7.3%	526	36.7%
No	78352	92.3%	77442	92.7%	910	63.3%
Total	84932	100.0%	83496	100.0%	1436	100.0%

Have ventilation system in buildings of livestock (animal) on the holding						
Yes	6058	7.1%	5607	6.7%	451	31.4%
No	78874	92.9%	77889	93.3%	985	68.6%
Total	84932	100.0%	83496	100.0%	1436	100.0%
Maintain temperature in the building of livestock and poultry						
Yes	3271	3.9%	2643	3.2%	628	43.7%
No	81661	96.1%	80852	96.8%	808	56.3%
Total	84932	100.0%	83496	100.0%	1436	100.0%

Table 69. Number of holding reporting produce of manure on the holding during reference period, Chitwan

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	Percent	Number of holdings	Percent	Number of holdings	Percent
Total number of holding reporting	84256	100.0%	82820	100.0%	1436	100.0%
Types of manure produced on the holding						
Farm yard manure	76125	90.4%	75375	91.0%	750	52.3%
Compost manure	5704	6.8%	5704	6.9%		0.0%
KUKHURA KO SULI	34012	40.4%	33314	40.2%	697	48.5%
Bio gas slurry	6918	8.2%	6714	8.1%	204	14.2%
Liquid manure	354	0.4%	329	0.4%	25	1.8%
None	676	0.8%	676	0.8%		0.0%

Table 70. Number of holding reporting and quantity of sold or given to other and purpose of produced manure during the reference period, Chitwan

Total of commercial and non-commercial holdings								
Types of compost manure	Number of holdings reporting produced manure sold or give to other	Quantity of produced manure exchange with commodity or service	Quantity of produced manure sold	Quantity of produced manure give without cost	Number of holding reporting use of produced manure for other purpose except agriculture activities	Number of holdings reporting types of purposes of produced manure used		
						For energy	For construction	For feeding
Farm yard manure	4054	3554892	19746726	1000266	80	80		5
Compost manure	151		302087					
KUKHURA KO SULI	1557	237933	16662633	177607				
Bio gas slurry					19	15		5

Non-Commercial holdings								
Farm yard manure	3788	3281440	15544753	804323	30	30		
Compost manure	151	0	302087					
KUKHURA KO SULI	1022	52332	2738110	43427				
Commercial holdings								
Farm yard manure	266	273452	4201974	195944	51	51		5
Compost manure								
KUKHURA KO SULI	535	185601	13924523	134180				
Bio gas slurry					19	15		5

Table 71. Number of holdings reporting percentage of using traditional and improved manure management system by types of manure, Chitwan

Total of commercial and non-commercial holdings								
Types of produced manure	Using Traditional manure management system				Using Improved manure management system			
	Number of holding reporting				Number of holding reporting			
	Upto 25%	26% to 50%	51% to 75%	76% and over	Upto 25%	26% to 50%	51% to 75%	76% and over
Farm yard manure	353	78	14	75668	75681	72	8	353
Compost manure	0	0	0	5704	5704	0	0	0
KUKHURA KO SULI	545	34	0	33431	33431	33	1	545
Bio gas slurry	1128	151	0	5638	5638	151	0	1128
Liquid manure	342	0	0	12	12	0	0	342
Non-Commercial holdings								
Farm yard manure	333	0	0	75042	75042	0	0	333
Compost manure	0	0	0	5704	5704	0	0	0
KUKHURA KO SULI	492	0	0	32823	32823	0	0	492
Bio gas slurry	1102	151	0	5461	5461	151	0	1102
Liquid manure	329	0	0	0	0	0	0	329
Commercial holdings								
Farm yard manure	20	78	14	626	639	72	8	20
Compost manure	0	0	0	0	0	0	0	0
KUKHURA KO SULI	53	34	0	609	609	33	1	53
Bio gas slurry	26	0	0	178	178	0	0	26
Liquid manure	13	0	0	12	12	0	0	13

Table 72. Number of holding reporting, monitoring market condition before selling products from holdings and visits by agriculture technician for technical support during the reference period, Chitwan

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	Percent	Number of holdings	Percent	Number of holdings	Percent
Keeping information of market condition before selling products from holding						
Yes	42620	39.3%	40857	38.4%	1763	82.0%
No	65924	60.7%	65536	61.6%	388	18.0%
Total	108544	100.0%	106393	100.0%	2151	100.0%
Number of visit by agriculture technician for technical support						
None	89260	82.2%	88019	82.7%	1240	57.7%
One visit	5232	4.8%	5110	4.8%	123	5.7%
Two to four visits	9264	8.5%	8956	8.4%	307	14.3%
Five to nine visits	3171	2.9%	3004	2.8%	168	7.8%
Ten or more visits	1617	1.5%	1304	1.2%	313	14.5%
Total	108544	100.0%	106393	100.0%	2151	100.0%
Number of visit of agri. technician sufficient or not						
Yes	17440	90.4%	16714	91.0%	727	79.8%
No	1844	9.6%	1660	9.0%	184	20.2%
Total	19284	100.0%	18374	100.0%	910	100.0%
Reason for not visit / not sufficient visit by technician						
Not necessary	17776	19.5%	17260	19.2%	516	36.2%
Far away	3867	4.2%	3685	4.1%	182	12.8%
Service provider busy	1526	1.7%	1461	1.6%	66	4.6%
Not available	9235	10.1%	9156	10.2%	79	5.5%
Not interested to come	31412	34.5%	31079	34.7%	332	23.3%
Others	27287	30.0%	27038	30.1%	249	17.5%
Total	91104	100.0%	89680	100.0%	1424	100.0%

Table 73. Number of holdings reporting Development projects, awareness, participation and reasons for not participating, Chitwan

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	Percent	Number of holdings	Percent	Number of holdings	Percent
Awareness of any specific agricultural development projects being carried out in the holding's community or neighborhood during the reference period						
Yes	11170	10.3%	10539	9.9%	631	29.3%
No	97374	89.7%	95854	90.1%	1520	70.7%
Total	108544	100.0%	106393	100.0%	2151	100.0%
Holding participated in the development project(s)						
Yes	6467	57.9%	6031	57.2%	436	69.1%
No	4703	42.1%	4509	42.8%	195	30.9%
Total	11170	100.0%	10539	100.0%	631	100.0%
Objective of development project(s) on which holding participate						
Capacity building	3932	60.8%	3751	62.2%	181	41.5%
Support in factors of production like seeds	1800	27.8%	1724	28.6%	76	17.4%
Mechanization and infrastructural development	98	1.5%	0	0.0%	98	22.4%
Subsidies/ grant	330	5.1%	302	5.0%	28	6.5%
Others	307	4.7%	253	4.2%	54	12.3%
Total	6467	100.0%	6031	100.0%	436	100.0%
Reason for not participation in development project(s)						
Not interested in participating	565	12.0%	535	11.9%	30	15.3%
Interested in participating, but there was no possibility to participate	756	16.1%	731	16.2%	25	13.0%
Lack of opportunity	3189	67.8%	3095	68.6%	94	48.2%
Others	194	4.1%	148	3.3%	46	23.5%
Total	4703	100.0%	4509	100.0%	195	100.0%

Table 74. Number of holdings reporting access to facilities by types of transportation and required time taken for the holding during reference period, Chitwan

Total of commercial and non-commercial Holdings								
Types of transportation	Total number of holdings	Types of facilities						
		Market	Govt. Agri/ Livestock service office	Pvt. Veterinary clinic	Agrovet / Pharmacy	Rural livestock/Agri. health worker	Food / Cold storage	Agri. processing center
Number of holding have access to facilities	108544	107147	69949	93349	101902	37447	16760	48942
	100.0%	98.7%	64.4%	86.0%	93.9%	34.5%	15.4%	45.1%
Types of transportation	Time taken							
By foot	Under 30 minutes	11992	7702	19451	26703	15264	43	13805
	30 to 59 minutes	870	216	753	542	350	42	583
	1 - 2 hours	673	0	731	731	0	0	637
	More than 2 hours	453	68	142	265	10	0	73
Cycle/Rickshaw	Under 30 minutes	13924	8118	14522	17245	3696	1680	11212
	30 to 59 minutes	3209	593	2261	2035	1	875	0
	1 - 2 hours	0	0	0	0	0	0	0
	More than 2 hours	1298	232	649	808	0	0	0
Motorcycle	Under 30 minutes	41162	30928	34797	33401	15399	8305	15379
	30 to 59 minutes	1996	4525	412	368	363	1176	507
	1 - 2 hours	181	37	152	152	12	1	0
	More than 2 hours	0	0	649	0	0	922	0
Four wheeler	Under 30 minutes	14028	4889	7071	6862	972	584	3262
	30 to 59 minutes	2057	4637	298	457	335	827	795
	1 - 2 hours	2134	569	1064	1430	152	168	1
	More than 2 hours	725	71	71	720	0	4	0
Mixed	Under 30 minutes	7221	5384	7621	7223	881	1954	2330
	30 to 59 minutes	690	379	259	479	0	167	152
	1 - 2 hours	2899	559	722	914	0	0	73

Types of transportation	Total number of holdings	Types of facilities						
		Market	Govt. Agri/ Livestock service office	Pvt. Veterinary clinic	Agrovet / Pharmacy	Rural livestock/Agri. health worker	Food / Cold storage	Agri. processing center
	More than 2 hours	1632	1000	1578	1551	10	10	83
Others	Under 30 minutes	1	0	147	16	2	1	5
	30 to 59 minutes	0	0	0	0	0	0	7
	1 - 2 hours	0	42	0	0	0	0	36
	More than 2 hours	0	0	0	0	0	0	0

Table 75. Number of holding reporting adaptation to climate change and mitigation strategies during reference period, Chitwan

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	Percent	Number of holdings	Percent	Number of holdings	Percent
Did natural extreme events or disasters hit the holding during the reference period?						
Yes, economic impact	4499	4.1%	4236	4.0%	263	12.2%
Yes, physical impact	3324	3.1%	3277	3.1%	47	2.2%
Yes, human impact		0.0%			0	0.0%
No	100721	92.8%	98880	92.9%	1841	85.6%
Total	108544	100.0%	106393	100.0%	2151	100.0%
Economic Impact						
Lack in income	3688	82.0%	3448	81.4%	240	91.3%
Decrease in production	4032	89.6%	3892	91.9%	139	52.9%
Crops damage in storage		0.0%		0.0%		
Others	111	2.5%	106	2.5%	5	1.8%
Not affected	7	0.1%		0.0%	7	2.5%
Total	4499	100.0%	4236	100.0%	263	100.0%
Physical Impact						
Loss of land						
Loss of crops	3277	98.6%	3277	100.0%		
Loss of livestock/poultry	45	1.4%			45	95.9%
Loss of fish						
Loss of timber/wood						
Loss/damage of building	2	0.1%			2	4.0%
Other physical loss						
Not affected						
Total	3324	100.0%	3277	100.0%	47	100.0%
Mitigation strategy done by holdings for adaptation of climate change						
Total number of holdings reporting know about climate change	42339	100.0%	41079	100.0%	1260	100.0%
Multi-Crops practice to adapt climate change	8063	19.0%	8019	19.5%	44	3.5%
Crops transformation practice to adapt climate change	6472	15.3%	6457	15.7%	15	1.2%
Use of traditional farm practice and knowledge to adapt climate change	12870	30.4%	12649	30.8%	222	17.6%
Use of traditional crops and livestock to adapt climate change	6964	16.4%	6875	16.7%	89	7.1%
Use of local seeds to adapt climate change	9289	21.9%	9214	22.4%	75	6.0%
Use of new practice or technology to adapt climate change	2405	5.7%	2020	4.9%	385	30.5%
Change in race to adapt climate change	6917	16.3%	6721	16.4%	195	15.5%
Other practice done to adapt climate change	866	2.0%	800	1.9%	66	5.2%
No any practice done to adapt climate change	23918	56.5%	23370	56.9%	548	43.5%

Table 76. Number of holding reporting waste generating by the holdings during reference period by the types of waste, Chitwan

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	Percent	Number of holdings	Percent	Number of holdings	Percent
Total number of holding	108528	100.0%	106393	100.0%	2135	100.0%
Types of waste						
Non-functioning vehicles	46164	42.5%	45207	42.5%	956	44.8%
Empty packaging of plant protection products (PPPs)	66362	61.1%	65364	61.4%	998	46.8%
Empty packaging of fertilizer products	72167	66.5%	71321	67.0%	846	39.6%
Empty packaging of diesel, gasoline or other petroleum products	4162	3.8%	4035	3.8%	127	6.0%
Empty packaging of seeds	83901	77.3%	82980	78.0%	920	43.1%
Used plastic film	87667	80.8%	85818	80.7%	1850	86.6%
Ropes and nets (used for forage conditioning or viticulture)	46288	42.7%	45241	42.5%	1047	49.0%
Plant protection products (PPPs) that are no longer usable	12203	11.2%	11784	11.1%	419	19.6%
Veterinary waste	19329	17.8%	18422	17.3%	908	42.5%
Fruit-soaking fungicidal liquids	39710	36.6%	38996	36.7%	714	33.5%
Other non-hazardous organic waste	20049	18.5%	19485	18.3%	564	26.4%
Other non-hazardous inorganic waste	3252	3.0%	3184	3.0%	69	3.2%
Other hazardous waste	3622	3.3%	3476	3.3%	146	6.8%
None	2400	2.2%	2382	2.2%	18	0.9%

Table 77. Number of holding reporting treatment and method used for waste generated on the holdings during the reference period, Chitwan

Particulars	Total		Non-Commercial holdings		Commercial holdings	
	Number of holdings	Percent	Number of holdings	Percent	Number of holdings	Percent
Total number of holding	108528	100.0%	106393	100.0%	2135	100.0%
Treatment used by the holding for the waste generated on the holding during the reference period.						
Waste taken away from the holding by a professional	51055	47.0%	50051	47.0%	1004	47.0%
Waste kept on the holding, treated by burning	36641	33.8%	35895	33.7%	746	34.9%
Waste kept on the holding, treated by burying	4350	4.0%	4175	3.9%	174	8.2%
Waste kept on the holding, other treatment	13027	12.0%	12823	12.1%	204	9.6%
Waste kept on the holding, no treatment	3457	3.2%	3450	3.2%	7	0.3%
Methods used during the reference period to manage the wastewater generated by the holding.						
Discharged to a constructed retention or holding pond	19735	18.2%	19360	18.2%	376	17.6%
Discharged to a septic or sewer system	11328	10.4%	11164	10.5%	164	7.7%
Applied to agricultural land	67310	62.0%	65968	62.0%	1342	62.9%
Included in the liquid manure system	223	0.2%	178	0.2%	46	2.1%
Not managed, removed through natural drainage	8855	8.2%	8739	8.2%	116	5.4%
Other	1077	1.0%	985	0.9%	92	4.3%

PART-IV

STATISTICAL TABLES

(KHAIRAHANI MUNICIPALITY

ESTIMATES)

Table 1k. Number and Area of holding reporting by total area of holding, Khairahani Municipality

Total area of holdings	Number of holdings	Area in Hectare
Holding without land	293	7.3
Holding with land	11181	4566.5
Under 0.1 ha.	1202	82.3
0.1 ha. and under 0.2 ha.	2378	439.7
0.2 ha. and under 0.5 ha.	5001	1732.7
0.5 ha. and under 1 ha.	2035	1366.4
1 ha. and under 2 ha.	479	604.6
2 ha. and under 3 ha.	24	64.3
3 ha. and under 4 ha.		
4 ha. and under 5 ha.	63	276.4
5 ha. and under 10 ha.		
10 ha. and over		
Total	11474	4573.8

Table 2k. Number and area of holdings by land tenure, Khairahani Municipality

Types of Land tenure	Number of holdings	Area in hectares
Owned	11148	3239.5
Rented based on agreed sum of Money	3094	1193.7
Rented based on agreed Quantity Produced	78	21.7
Rented based on share of Produce	314	72.1
Rented based on Mortgage	40	6.4
Other rented agreement	117	13.8
Other type of land tenure	274	26.5
Total	11474	4573.8

Table 2k.1 Number and area of holdings by land tenure, Khairahani Municipality

Type of tenure	Number of holdings	Area (ha.)			
		Owned	Rented	Other	Total
One tenure form					
Owned	7669	2672.3			2672.3
Rented	258		97.0		97.0
Other	68			4.1	4.1
Total one tenure form	7996	2672.3	97.0	4.1	2773.5
More than one tenure form	3478	567.1	1210.7	22.4	1800.3
Total land holdings	11474	3239.5	1307.8	26.5	4573.8

Table 3k. Number and area of holdings by land use, Khairahani Municipality

Land Use	Number of holdings	Area in hectares
TOTAL AREA ON HOLDINGS	11474	4573.8
Total agricultural area	11474	4164.8
Agricultural area utilized	11474	4164.8
Area of Temporary Crops (Outside Green house)	11143	3840.1
Area of temporary crops (inside Green house)	34	5.7
Area of temporary fallow	217	5.2
Area of temporary meadow	74	1.3
Area of permanent crops	684	276.1
Area of permanent meadow		
Area of land used in other agri. Activity	224	36.5
Total other area	11392	408.9
Area of land cover by house/shelter	11392	374.6
Area of land covered by forest	162	9.3
Area of land covered by pond	30	1.0
Area of useless land	170	24.0

Table 4k. Number, Area of holdings reporting female's ownership in agriculture land and number female have ownership in land, Khairahani Municipality

Female's Ownership in agricultural land	Number of holdings	Area in hectares	Number of female
Yes	4675	830.7	4719
No	6799		
Total	11474		

Table 5k. Area and holding reporting agricultural land affected by disaster during the reference period, Khairahani Municipality

Land affected by disaster during the reference period	Number of holdings	Area of land affected by physical (hectare)	Area of land affected by chemical (hectare)
Yes	589	137.6	4.3
No	10885		
Total	11474		

Table 6k. Number and percent of holding reporting by agriculture activities, Khairahani Municipality

Agriculture activities	Number of holdings	% of total holdings
Operational Status of holding		
One family holding	11474	100.0
Total	11474	100.0
Keeping Record of agri./economic activities		
No	7921	69.0
Yes, partially	2724	23.7
Yes, regularly	829	7.2
Total	11474	100.0
Main activity of holdings from economic view		
Crop production	10723	93.5
Livestock raising	703	6.1
Fisheries	48	0.4
Total	11474	100.0
Main crop of holding from economic view		
Cereal crops	9698	90.4
Vegetable crops	642	6.0
Legumes	30	0.3
Oilseed crops	31	0.3
Fruit crops	113	1.1
Grass farming	209	2.0
Total	10723	100.0
Main purpose of raising livestock		
Livestock for meat	84	12.0
Poultry for meat	182	25.9
Milk production	437	62.2
Total	703	100.0
Main purpose of agriculture product		
Mainly for sales (More than 90%)	913	8.0
Mainly for sales, partly own consumption (50% - 90% sale)	1926	16.8
Mainly for consumption, Partly sales (10% - 50% sales)	3252	28.3
Mainly for own consumption (Less than 10%)	5383	46.9
Total	11474	100.0

Table 7k. Number of agriculture household and farm population by age group and sex, Khairahani Municipality

Age Group	Agriculture Household	Farm Population by sex			Average household size
		Male	Female	Both	
All age	11474	24093	27796	51889	4.5
Less than 15 years	6326	5551	4350	9901	
15 to 24 years	6610	4750	5960	10710	
25 to 44 years	9302	6006	9365	15371	
45 to 64 years	6691	5397	5306	10703	
65 years and over	3843	2390	2814	5205	

Table 8k. Marital status of 10 years and above year of age farm population by sex, Khairahani Municipality

Sex	Number of population by Marital Status						Total
	Single	Once married	Multiple married	Re-married	Widow / Widower	Separated	
Male	6509	12907	472	163	152	0	20203
Female	6119	17504	117	48	1353	87	25228
Total	12628	30411	589	211	1505	87	45431

Table 9k. Education status of 5 years and above years of age and currently attending school population (5 years and less than 40 years of age) by sex, Khairahani Municipality

Sex	Number of population by education status (5 years and above years of age)						Currently attending school population (5 years and less than 40 years of age)		
	Illiterate	Literate only	Basic (class 1 to 8)	Secondary level (class 9 to 12)	Above secondary / University education	Total	Yes	No	Total
Male	2139	3754	7106	8143	1131	22273	6018	7446	13464
Female	5031	5878	6494	7769	1653	26825	6721	10792	17513
Total	7170	9631	13600	15912	2784	49098	12739	18239	30977

Table 10k. Occupation of farm population by sex (10 years and above years of age), Khairahani Municipality

Occupations	Male	Female	Both sex
Armed army / police	92	0	92
Manager	142	0	142
Specialist/ Subject matter specialist	101	133	234
Technician / assistant subject matter specialist	282	218	500
Office assistant	569	267	837
Service /sales worker	1473	361	1833
Agri, forest and fisheries skill worker	5943	6668	12610
Business worker	1343	285	1629
Factory/machine operator	786	142	927
Elementary semi-skill worker	1021	119	1140
Household work	772	9027	9799
Student	4187	5033	9221
No economic work	3491	2977	6468
Total	20203	25228	45431

Table 11k. Number of population reporting formal training received, participate in decisions making for agriculture activities, average time spent, involvement income earning activities other than agriculture and types of activities by sex, Khairahani Municipality

Particulars	Sex		Total
	Male	Female	
Formal training received on agriculture (Greater than 15 year of age)			
Yes	1606	1499	3105
No	16937	21947	38883
Total	18543	23446	41989
Participate in decisions concerning crops and livestock (Greater than 15 year of age.)			
Yes	11275	13313	24589
No	7268	10132	17400
Total	18543	23446	41989
Average time spending on agriculture activities			
Less (<40%)	11431	11191	22622
About half (40% - 59%)	2960	4816	7777
Almost all (60%-99%)	3940	7557	11497
All (100%)	1872	1664	3536
Total	20203	25228	45431
Involvement in additional income earning activities other than agriculture (10 years and above years of age)			
Yes	5845	2417	8263
No	14358	22811	37168
Total	20203	25228	45431
Types of additional activities other than agriculture (10 years and above years of age)			
Mining and quarrying	0	0	0
Industrial production	254	158	412
Electricity, gas etc.	161	0	161
Water supply, sewerage	48	0	48
Construction	668	64	732
Wholesale and retail business	845	759	1604
Vehicle and motor cycle repair	435	0	435
Transportation and Storage	611	0	611
Residence and fooding service	347	24	371
Information and communication	0	30	30
Financial and insurance activities	101	141	242
Real state business	126	0	126
Scientific and Technical activities	437	247	684
Public service and support service activities	331	97	428
Public administration and compulsory service	30	74	104
Education	318	385	703
Human health and social worker	34	18	53
Entertainment, recreation and ?.	43	18	61
Other service provider activities	1057	400	1458

Table 12k. Number of holdings, Area, Production and Yield rate by temporary crops, Khairahani Municipality

Major Temporary Crops	Number of holdings	Area in hectare		Production in Metric Ton	Yield Rate (Mt./Ha)
		Planted	Harvested		
Paddy (BHARKHE)	9760	3547.9	3513.5	14271.7	4.1
Maize	3993	847.3	826.2	5193.0	6.3
Wheat	873	344.4	344.4	1008.3	2.9
Millet	21	1.4	1.4	2.1	1.5
Buck wheat	258	50.7	50.7	64.2	1.3
Paddy (Chhaite)	4752	1878.4	1868.4	7883.0	4.2
Potato	4795	89.4	88.9	668.3	7.5
Tomato	381	12.9	12.9	206.8	16.1
Mustard	7668	2147.7	2119.8	2002.7	0.9

Table 13k. Number of holdings reporting used of fertilizer. quantity of fertilizers and reason for not using fertilizer by temporary crops, Khairahani Municipality

Major Temporary crops	Total number of holdings reporting crops	Chemical Fertilizers used on crop					Compost (Organic) fertilizer				Number of holding reporting reason of not used chemical fertilizer				Number of holding reporting reason of not used compost (organic) fertilizer			
		Number of holdings reporting	Quantity Used in Kg				Number of holdings reporting	Quantity Used in Kg			High price	Not available	Not necessary	Others	High price	Not available	Not necessary	Others
			Urea	DAP	Potas	Other micro nutrition		Produce in agriculture holding	Purchased fertilizer	Exchange with goods and services								
Paddy (BHARKHE)	9760	9657	478653	336867	87418	50027	6312	31004105	6911011	393216	25		48	30	272	1906	1087	320
Maize	3993	3212	78978	25412	6731	418	3402	4778891	2995565	559		30	751			339	445	
Wheat	873	854	32454	31864	2288	2465	533	1906632	73908				19			214	42	85
Millet	21													21				21
Buck Wheat	258												50	208			50	208
Paddy (Chhaite)	4752	2577	112459	82852	16544	12386	865	3607583	731767		25				94	1012	488	164
Potato	4795	2750	5934	9897	1540	1670	4193	1585102	287775	10010	25	119	1799	101	46	146	383	48
Tomato	381	222	525	1347	841	795	222	325172					158			96	63	
Mustard	7668	7018	82915	169876	22095	13083	4953	11756377	954077	66434	25	124	471	30	455	1085	1110	178

Table 14k. Quantity of product used by the holdings and Stocks and storage status on the holding by temporary crops, Khairahani Municipality

Major Temporary crops	Used of Product						Stock of product			Storage status						
	Household Consumption	Sold	Feed for livestock/poultry	Given to worker as wage (kg)	Given to service provider (kg)	If sold, per kg. Price (Average)	Stock of product kept in holding reporting		Quantity of production kept in stock	Holding reporting storage status of product		Quantity of storage in agri. holdings	Quantity of storage outside agri. holding	Quantity of storage for seeds	Quantity of damage in storage by disaster	Quantity of damage from production to storage
	Quantity in Kilogram					Rupees	Yes	No	Kilogram	Yes	No	Kilogram				
Paddy (BHARKHE)	9861459	7443689	149535	0	101067	20.08	4698	3340	2684859	5605	1530	6644019	0	42858	6969	15895
Maize	1164484	2642203	427723	0	239	26.04	684	1590	57372	1352	878	268592	0	5209	0	0
Wheat	69705	805201	5354	0	0	26.46	304	394	17674	478	218	167383	0	4671	0	0
Millet	2117	0	0	0	0		0	0		21	0	0	0	64	0	
Buck Wheat	49619	5686	15233	237	150	50.00	50	119	1502	139	30	6652	0	1151	0	0
Paddy (Chhaite)	1253961	2458110	8460	0	0	21.03	0	0		1789	566	1513107	0	14189	1209	0
Potato	600344	69172	0	1545	12997	15.92	1081	2115	56614	2265	792	258390	0	2649	1302	4292
Tomato	23954	190922	336	101	1480		0	0		0	330					
Mustard	1389475	455373	0	0	21647	78.86	3340	2921	306796	4585	1446	860718	0	25685	1291	97

Table 15k. Number of holdings reporting irrigation, plant protection and crops cultivated together with other crops by temporary crops, Khairahani Municipality

Major Temporary Crops	Holding reporting plant protection product used on crop		Holding reporting crops cultivated together with other crops			Holding reporting percentage of irrigated area of crops				
	Yes	No	No	Yes, Fully	Yes, Partially	None	Under 25%	25% to 50%	51% to 75%	76% to 100%
Paddy (BHARKHE)	6357	3403	8918	107	735	195	58	0	74	9432
Maize	2182	1811	3502	0	491	203	0	0	0	3790
Wheat	497	377	765	0	108	19	0	0	0	854
Millet	0	21	21	0	0	0	0	0	0	21
Buck Wheat	0	258	258	0	0	0	0	0	0	258
Paddy (Chhaite)	2065	537	2300	0	303	0	0	0	0	2602
Potato	1843	2951	3042	176	1577	418	0	0	0	4376
Tomato	160	221	381	0	0	126	0	0	0	255
Mustard	3636	4032	7501	0	167	668	233	44	0	6723

Table 16k. Number of holdings reporting types of seed varieties, quantity of different types of seed and source of local varieties seed used by temporary crops, Khairahani Municipality

Major Temporary Crops	Number of holding by types of varieties of seed planted				Quantity of seed consisted in (Kg)			Quantity of sources of local varieties seed of crops (Kg)				
	1 type	2 type	3 type	4 type	Improved varieties	Hybrid varieties	Local varieties	Produced on the. holdings	Exchange within the community	Purchased from the local market	Purchased from seed company	Received from grant
Paddy (BHARKHE)	7851	1783	71	55	222637	26759	34366	31332	411	4168	0	25
Maize	3993	0	0	0	7814	22297	11060	1229	0	8658	4601	0
Wheat	873	0	0	0	62505	417	1271	1271	0	0	0	0
Millet	21	0	0	0	0	0	106	106	0	0	0	0
Buck Wheat	258	0	0	0	0	0	2039	2039	0	0	0	0
Paddy (Chhaite)	2280	272	50	0	69293	1064	5342	4696	0	547	0	25
Potato	4560	193	42	0	55441	2655	14973	2730	0	14613	0	0
Tomato	381	0	0	0	54	7	23	6	0	0	17	0
Mustard	7605	63	0	0	15870	2703	28877	27206	119	4733	0	25

Table 17k. Number of holdings, Area of compact plantation, number of productive, non-productive and scattered trees and production by permanent crops, Khairahani Municipality

Major Permanent Crops	Number of holdings reporting	Compact Plantation				Number of Scattered trees		Production (Mt. ton)
		Plantation Area		Productive age of crop		Productive Age	Unproductive Age	
		Area (ha.)	Number of trees	Area (ha.)	Number of trees			
Big lemon	58	0.2	175	0.2	117		58	5.8
Lemon	277	0.4	193	0.4	121	234	62	5.4
Mango	1401	2.2	1676	1.8	574	1987	2536	302.6
Papaya	324	0.5	439	0.5	188	795	598	15.7
Banana	957	276.5	564972	260.2	529387	2813	8714	3386.3

Table 18k. Number of holdings reporting, production compared to the previous year and production decrease due to hazards by Permanent crops, Khairahani Municipality

Major Permanent Crops	Number of holdings reporting	Production compared to the previous year				Production decrease due to hazards
		Similar	Greater	Lower	Not applicable	
		Number of holdings				Kilogram
Big lemon	58	58	0	0	0	
Lemon	277	166	50	42	0	84
Mango	1401	371	243	106	233	6154
Papaya	324	183	0	25	74	249
Banana	957	554	137	67	124	1142

Table 19k. Number of holdings reporting used of fertilizer. quantity of fertilizers and reason for not using fertilizer by Permanent crops, Khairahani Municipality

Major Permanent Crops	Total number of holdings reporting	Chemical Fertilizers used on crop				Compost (Organic) fertilizer			Number of holding reporting reason of not used chemical fertilizer				Number of holding reporting reason of not used compost (organic) fertilizer					
		Number of holdings reporting	Quantity Used in Kg				Number of holdings reporting	Quantity Used in Kg			High price	Not available	Not necessary	Others	High price	Not available	Not necessary	Others
			Urea	DAP	Potas	Other fertilizer		Produce in agriculture holding	Purchased fertilizer	Exchange with goods and services								
Big lemon	58	0				58	0	0	1227	0	0	58	0	0	0	58	0	
Lemon	277	0				141	7012	0	0	0	0	277	0	0	0	137	0	
Mango	1401	42	84	0	0	558	35773	749	0	118	74	1241	0	78	122	790	24	
Papaya	324	0				179	7999	19383	0	0	0	324	0	0	0	145	0	
Banana	957	163	23222 5	2334 83	2321 39	529	4790643	4948015	555	147	74	648	0	78	137	386	0	

Table 20k. Quantity of product used by the holdings and Stocks and storage status on the holding by permanent crops, Khairahani Municipality

Major Permanent Crops	Used of Product				
	Household Consumption	Sold	Given to worker as wage (kg)	Given to service provider (kg)	If sold, per kg. Price (Average)
	Quantity in Kilogram				Rupees
Big lemon	5842	0	0	0	
Lemon	5396	0	0	0	
Mango	186603	92593	1209	21251	50.00
Papaya	11705	0	0	844	
Banana	76508	3307839	0	2388	30.00

Table 21k. Number of holdings reporting irrigation, plant protection and crops cultivated together with other crops by permanent crops, Khairahani Municipality

Major Permanent Crops	Holding reporting plant protection product used on crop		Holding reporting crops cultivated together with other crops			Holding reporting percentage of irrigated area of crops				
	Yes	No	No	Yes, Fully	Yes, Partially	None	Under 25%	25% to 50%	51% to 75%	76% to 100%
Big lemon	0	0	58	0	0	58	0	0	0	0
Lemon	0	563	277	0	0	44	24	0	0	209
Mango	0	0	1334	0	68	504	0	73	30	795
Papaya	0	0	324	0	0	124	0	0	0	200
Banana	0	0	957	0	0	242	0	50	48	617

Table 22k. Number of holdings and livestock/poultry as of day of enumeration and reference period (year), number of born, death, purchased sold and grant received in reference period by age and sex of livestock/poultry, Khairahani Municipality

Livestock/Poultry	Number of holding	Number of livestock/poulties as of enumeration day			Number of animals in reference period	Number of born animals in reference period	Number of natural death animals	Number of death due to disaster	Number of purchased in reference period	Number of sold in reference period	Number of received in grant
		Total	Local	Improved							
Cattle	4949	12537	3630	8907	13586	3057	1065	254	1712	1795	266
Less than one year, male calf	1320	426	145	280	1195	1000	651	158	0	156	0
Less than one year, female calf	2447	2162	617	1545	2129	2057	96	48	134	163	0
One - three years, male calf	224	68	68	0	224		0	0	0	0	0
One - three years, female calf	2214	2364	848	1516	2293		155	0	149	271	58
Three years and above ox	82	164	48	116	96		0	0	0	0	0
Three years and above milking cow	4156	5354	1530	3824	6627		100	48	1347	1039	208
Three years and above non-milking cow	1507	1999	374	1625	1023		63	0	81	166	0
Buffalo	2753	3320	2069	1252	4613	631	297	24	383	1223	0
Less than one year, male calf	778	476	299	177	536	252	84	24	0	194	0
Less than one year, female calf	814	506	486	21	640	379	0	0	220	49	0
One - three years, male calf	367	152	117	34	360		0	0	19	277	0
One - three years, female calf	958	806	322	484	984		21	0	88	210	0
Three years and above he buffalo	66	85	85	0	37		0	0	0	0	0
Three years and above milking buffalo	1301	551	302	249	1354		148	0	55	250	0
Three years and above non-milking buffalo	797	745	457	288	701		44	0	0	244	0
Goat	4508	14637	12525	2113	17957	8315	645	838	2647	5599	18
Below 6 month PATHA	2379	3186	2712	474	4114	3405	182	159	999	830	0
Below 6 month PATHI	2002	1565	1454	111	2653	2048	63	106	92	480	18
6 month or above Goat (male)	3314	4630	3877	753	5829	1606	150	219	1358	3106	0
6 month or above Goat (female)	3402	5256	4482	775	5362	1256	251	354	198	1182	0
Pig	146	337	337	0	50	0	0	0	0	0	0
Below 6 month PATHA	146	242	242	0	50	0	0	0	0	0	0
6 month or above	96	96	96	0	0	0	0	0	0	0	0
Poultry	3687	123658			172135	30544	24540	5953	118191	99071	274
Chicken	2648	100945			140750	12518	22610	4509	113655	92180	126
Boiler	295	77621			110600	0	17714	972	103695	88391	0
Layers	127	844			633	0	506	84	1055	211	0
Giriraj (Koiler)	804	5448			9195	202	1979	224	6149	1344	0
Local	1714	17032			20322	12317	2410	3229	2756	2234	126
Other Poultry		22713			31385	18025	1930	1444	4537	6891	149
Duck	1661	19858			27706	18025	1824	1444	1812	6344	149
Other poultry	290	2855			3678	0	106	0	2724	547	0

Table 23k. Number of milking cow and buffaloes, per day average milk and lactation period by types of cow and buffaloes, Khairahani Municipality

Types of Cow/Buffaloes	Total number of Cow/buffalos	Number of cow/buffalos giving milk	Number of holding reporting giving milk directly to calf		Per cow/buffalo per day average milk (liter)	Duration of cow/buffalo give milk (Average month)
			Yes	No		
Types of Cow						
Local	1904	1530	144	1198	5	10
Jersey	4005	2819	368	1404	10	10
Holistin	1396	957	160	364	10	11
Others	48	48	0	24	7	15
Types of Buffaloes						
Local	760	302	118	185	4	10
Murra	436	249	19	229	8	9
Murra cross	50					

Table 24k. Number of holdings reporting use of milk in reference week, sold price and market agreement for cow milk by milking animals, Khairahani Municipality

Milking animals	Quantity of milk in liter						Per liter milk price if proportion is greater than 0% (Rs.) Rupees
	Household consumption	Sold	Processed within holding	Provided to the calf	Destroy	Used in other purpose	
	Liter	Liter	Liter	Liter	Liter	Liter	
Cow	6815	27259	454	2031	363	17	53
Buffalo	780	1641		39			60

Table 25k. Number of holdings reporting eggs laying poultry and eggs production during reference period by type of poultry, Khairahani Municipality

Types of Poultry	Number of holding reporting	Number of Poultry	Number of eggs produced	Average days of egg production	Daily Average eggs production
Total	1837	20366	252688		
Layers	127	337	633	23	1
Giriraj (Koiler)	804	2128	20630	21	2
Local chicken	1714	5915	105306	22	2
Duck	1661	11986	126120	15	2

Table 26k. Number of eggs used by the holdings during reference period, Khairahani Municipality

Uses of Eggs	Number of eggs
Number of eggs sold	10805
Number of eggs used for hatching	39822
Number of eggs for own use	137772
Number of loss eggs	7422
Number of eggs for other used	2665

Table 27k. Number of holdings reporting major feeding practices and source of feed used by types of livestock, Khairahani Municipality

Livestock type	Number of holdings reporting livestock type	Major feeding practice				Source of feed used			
		Only grazing	Mainly grazing, with some feeding	Mainly feeding, with some grazing	Only feeding	Product of holding	Common pasture	Purchased	Exchanged
		Number of holdings				Number of holdings			
Cattle	4949	34	4858	34	0	4561	262	3642	54
Buffaloes	2753	94	2550	109	0	2532	156	2029	30
Goats	4508	94	4285	129	0	4454	391	2530	30
Poultry	3687	170	669	1312	1556	2082	441	2497	0
		Crops and agro-industrial by-products	Mainly grazing, with some feeding	Swill and household wastes	Forages, including roughages				
Pigs	146	0	0	48	98	98	0	96	0

Table 28k. Number of holdings reporting animal house (shed) management by type of livestock, Khairahani Municipality

Livestock type	Number of holdings reporting livestock type	Well managed	Semi managed	Unmanaged		Well managed	Semi managed	Unmanaged	
		Number of holding				Percent			
		Shelter	Traditional barns or building	Open	Other	Shelter	Traditional barns or building	Open	Other
Cattle	4949	910	3534	505		18.4%	71.4%	10.2%	0.0%
Buffaloes	2753	624	1800	329		22.7%	65.4%	11.9%	
Pig	146	0	146	0		0.0%	100.0%	0.0%	
Goat	4508	412	3899	173	25	9.1%	86.5%	3.8%	0.6%

Table 29k. Number of holding, number and area of pond and production of fish and sold quantity and average price per kilogram by type of fish, Khairahani Municipality

Type of Fish	Number of holdings	Number of Pond			Area of pond (Ha.)	
		Total	For Bhura production	For fish keeping		
Type of fish (Race)	Number of toddlers	Quantity of Production (kg)	Sold quantity (kg)	Average Per kilogram Sale price (Rs.)	Quantity of household consumption(kg)	Quantity of loss by disaster
Fish Farming on the holdings	66	161	43	119	32.2	
Carp	28037299	470399	351683	185	55156	63560
Mangur	85200	55216	47328	130	7888	0
Others	1422532	204852	162496	210	33294	9818

Table 30k. Share of household's total income accounted for by agricultural income and number of holding reporting month for sufficient from crop/livestock product on the holdings, Khairahani Municipality

Particulars	Number of holdings	% of total holdings
Share of household income accounted for by agricultural (crop and livestock) income		
None/close to 0 (less than 10%)	349	3.0%
Less than half (10%-39%)	2943	25.6%
About half (40% to 59%)	3558	31.0%
Most/almost all (60%-99%)	3113	27.1%
All (100%)	1511	13.2%
Total	11474	100.0%
Period of month sufficient from agriculture (Crops and livestock) income		
1 to 3 Months	807	7.1%
4 to 6 Months	1097	9.7%
7 to 9 Months	928	8.2%
10 to 12 Months	8468	74.9%
Total	11300	100.0%
Contribution of agricultural income compared to the previous year		
Similar	5285	46.1%
Higher	2874	25.0%
Lower	2492	21.7%
Not applicable	823	7.2%
Total	11474	100.0%
Status of Profit or Loss in the holding during last three years		
Loss all three years	876	8.2%
One years profit	2444	22.9%
Two years profit	3227	30.3%
Profit all three years	3307	31.1%
Not applicable	796	7.5%
Total	10651	100.0%

Table 31k. Other activities of the holding by holdings reporting, sold income from other activities and contribution compared with the previous year, Khairahani Municipality

Other activities on the holdings	Number of holdings	Sold Income from other Activities (Rs.)	Contribution in total income(%)		Contribution compared with the previous year		
			Less than 50%	50% and above	Equal	Increased	Decreased
					Number of holdings		
Total number of holdings	11474						
Holdings reporting at least one other activity	157						
Holdings without other activities	11316						
Other activities of the holding							
Milling activities		6159360	34	0	34	0	0
Manufacture / distillation of local alcohol		0	0	0	24	0	0
Contractual work for other holdings using the production mea		5501083	44	0	0	44	0
Accommodation, homestay, restaurant, catering and educational		16919467	0	24	0	24	0
Other		231725	0	0	0	0	31

Table 32k. Number of holdings reporting participation in farmers' associations, commercial or producer cooperatives, or bank account during reference period, Khairahani Municipality

Particulars	Number of holdings	Percent
Participation in a farmers' associations or co-operative		
Yes	6541	57.0%
No	4933	43.0%
Total	11474	100.0%
Holding has a bank account		
Yes	8830	77.0%
No	2644	23.0%
Total	11474	100.0%
Holding has received credit facility for agriculture		
Yes	2401	20.9%
No	9073	79.1%
Total	11474	100.0%
Holding has received agriculture loan with interest subsidy		
Yes	928	38.7%
No	1473	61.3%
Total	2401	100.0%
Holding has received grant/convenient support from government		
Yes	407	3.5%
No	11067	96.5%
Total	11474	100.0%

Table 33k. Number of holdings reporting taking insurance for agriculture activities during reference period, Khairahani Municipality

Agricultural Activities	Number of holdings	Percent
Insurance for following agricultural activities		
Crop production	137	1.2%
Livestock production	2541	22.1%
Fish farming	0	0.0%
Other	0	0.0%
No Insurance	8796	76.7%
Total number of holdings	11474	100.0%

Table 36k. Number and percent reporting shocks, recovery, ability to cope with shocks, severity of shocks compared to the past, Khairahani Municipality

Particulars	Number of holdings	% of total holdings
Total number of holdings reporting shocks	1249	100.0%
Holding has fully recovered from the shocks		
Yes	386	30.9%
No	863	69.1%
Holding is now better able to cope with the shocks		
Yes	854	68.4%
No	395	31.6%
General perception of the level of severity of shocks compared to the past		
Similar	444	35.5%
Higher	542	43.4%
Lower	264	21.1%

Table 37k. Number of holdings, agricultural machinery and loss by disaster reporting in the day of enumeration by types of agricultural machinery or equipment, Khairahani Municipality

Agricultural Machinery / equipment	Number of holdings	Total numbers of machinery/ equipment	Total number of loss by disaster
Iron plough	271	333	25
Power tiller/Mini tiller	152	118	0
SAF cutter	203	203	0
Milking machine	0		
Sallow tube well	3011	3113	49
Deep boring	644	637	62
Rower pump / DHIKI pump	533	533	0
Tractor	377	453	42
Thressor	102	102	0
Pump set	2617	2827	94
Cart	99	99	0
Sprayer	3793	4374	512
Combined harvester	0		
Other instrument/tools	10167	62649	342

Table 38k. Number of holdings and number of agriculture hire worker for agriculture activities by sex and types of workers during reference period, Khairahani Municipality

Particulars	Number of holdings	Types of Workers					
		Permanent Workers		Temporary Workers		Exchange Labour	
		Male	Female	Male	Female	Male	Female
Number of holdings reporting agriculture hire worker for agriculture activities	9760						
Agriculture Workers							
Family member		5453	6587				
Manager/Administrators				3369	4872		
Skill workers		7317	4612	14737	22975	335	2159
Unskilled workers		1249	1191	164247	182670	7185	24663
Total		14019	12391	182353	210517	7520	26822

Table 39k. Number and percent of holdings reporting the shortage of worker during peak period by main response, Khairahani Municipality

Particulars	Number of holdings	% of total holdings
Number of holdings reporting the shortage of workers during the peak periods	3965	100.0%
Main response for the shortage of workers during the peak periods		
Rented on contract to other	1854	46.7%
Only partial activities was carried on	67	1.7%
By increasing own engagement on the holding	1822	45.9%
Prefer less labor required agriculture activities	90	2.3%
Using modern machine	24	0.6%
Stopping the activates	108	2.7%

Table 40k. Housing Information of the agriculture household, Khairahani Municipality

Type of Outer wall	Number of holdings	% of total holdings
Mud bonded brick/stone	1156	10.1%
Cemented bonded brick/stone	9454	82.4%
Wood/plank	132	1.2%
Bamboo	603	5.3%
Unbaked brick		
Galvanized iron	31	0.3%
Others	97	0.8%
Total	11474	100.0%
Type of room		
Galvanized iron	5960	51.9%
Cemented (RCC)	5105	44.5%
Thatch/ straw	160	1.4%
Tile/ KAPATA/JHINGATI	170	1.5%
Stone/Slate	48	0.4%
Wood/Plank	31	0.3%
Total	11474	100.0%
Type of floor		
Mud	1299	11.3%
Plank/Bamboo		
Brick/Stone	136	1.2%
Ceramic tile	87	0.8%
Cemented	9897	86.3%
Others	55	0.5%
Total	11474	100.0%
Have separate kitchen room		
Yes	9644	84.1%
No	1830	15.9%
Total	11474	100.0%

Main source of drinking water	Number of holdings	% of total holdings
Tap water (within compound)	3996	34.8%
Tap water (Outside compound)	1952	17.0%
Tubewell/Handpump	3485	30.4%
Covered Inar/Kuwa	88	0.8%
Open Inar/Kuwa		
Spring water	1862	16.2%
River/Stream	31	0.3%
Others	60	0.5%
Total	11474	100.0%
Fuel used for cooking		
Timber/wood	1539	13.4%
LP Gas	9030	78.7%
GUITHA		
Bio-gas	904	7.9%
Others		
Total	11474	100.0%
Fuel used for lighting		
Electricity	11304	98.5%
Kerosene	24	0.2%
Bio-gas		
Solar	116	1.0%
Others	30	0.3%
Total	11474	100.0%
Type of toilet		
Flush toilet (public sewerage)		
Flush toilet (septic tank)	8132	70.9%
Ordinary	3268	28.5%
No toilet	74	0.6%
Total	11474	100.0%

Table 41k. Number and percent of holding reporting household amenities and agriculture equipment in the household, Khairahani Municipality

Household amenities and agriculture equipment	Number of holdings	% of total holdings
Total number of holdings	11474	100.0
Mobile	11305	98.5%
Telephone	1052	9.2%
Radio	3021	26.3%
Television	9385	81.8%
Transportation vehicle	4964	43.3%
Internet	2768	24.1%
Computer	1851	16.1%
Agriculture equipment	7639	66.6%
None at all	144	1.3%

Table 42k. Number and percent of holdings reporting types of information used on the holding during the reference period, Khairahani Municipality

Types of Information used for	Number of holdings	% of total holdings
Total number of holdings	11474	100.0
Use of fertilizers and/or plant protection products	3827	33.4%
Prices of outputs	4016	35.0%
Crop health issues	4213	36.7%
Crop types to be produced	1827	15.9%
Weather forecasts affecting production	1534	13.4%
Livestock health issues	1363	11.9%
Livestock feed issues	1815	15.8%
Livestock breeding	729	6.4%
Availability of inputs (including machinery and equipment)	417	3.6%
Prices of inputs	858	7.5%
Crop rotation and other sustainable agricultural practices	754	6.6%
Other environmental information	326	2.8%
Value add/ chain (storage, processing, packageing etc.)	21	0.2%
No any information used	5228	45.6%

Table 43k. Number and percent of holding reporting main source of information about information for the holding during the reference period, Khairahani Municipality

Main Source of Information	Number of holdings	% of total holdings
Total number of holdings	11474	100.0
Government or extension service	1418	12.4%
Other individual farmer	4296	37.4%
Farmers' group or association	2414	21.0%
NGO or non-governmental project	156	1.4%
Trader or market stakeholder	568	5.0%
Aggravate	2744	23.9%
Others	235	2.0%

Table 44k. Number and percent of holding reporting source or medium used for getting information about agriculture, Khairahani Municipality

Sources/Medium used for getting information	Number of holdings	% of total holdings
Total number of holdings	11474	100.0%
Face-to-face discussions	5746	50.1%
Phone calls	516	4.5%
Radio	1279	11.1%
Television	2120	18.5%
Internet or SMS	773	6.7%
Press or newspapers	529	4.6%
Agriculture Apps	111	1.0%
Other	49	0.4%

Table 45k. Number of holdings and area reporting by type of tillage used on outdoor arable land covered by temporary crops, Khairahani Municipality

Particulars	Number of	Area (Ha.)
Outdoor arable land covered by temporary crops	10860	3806.1
Type of tillage method		
Conventional tillage	1965	120.8
Mechanized tillage	10431	3790.1
Zero-tillage (no tillage)	228	45.7
Type of soil cover during the longest intercropping period		
Bare soil	4191	1798.1
Plant residues	1267	308.9
Next seasonal crop	8058	2724.7

Table 46k. Number of holdings and area reporting crop rotation being practiced on the holding during reference period, Khairahani Municipality

Crop rotation on the holdings	Number of holdings	% of total
Yes	8008	71.9%
No	3123	28.1%
Total	11131	100.0%
Practices and features used on the holdings during the reference period		
Fallowing or shifting cultivation	666	6.0%
Vegetative strips	53	0.5%
Liming	385	3.5%
Terraces	97	0.9%
Wall and barrier/fence/hedge	3551	31.9%
Rotational grazing	0	0.0%
No any practices	6923	62.2%

Table 47k. Number and percent of holdings reporting soil test during the reference period, Khairahani Municipality

Particulars	Number of holdings	Percent
Soil test was conducted during the reference period		
Yes	1042	9.4%
No	10088	90.6%
Total	11131	100.0%
Soil test was conducted in the past five years		
Yes	613	6.1%
No	9475	93.9%
Total	10088	100.0%

Table 48k. Number and percent of holding reporting practice made by holding for improvement after soil analysis, Khairahani Municipality

Particulars	Number of holdings	Percent
Total holding reporting soil test/analysis	1656	100.0%
Soil liming	442	26.7%
Quality organic manure	587	35.5%
Balance chemical fertilizer	222	13.4%
Green manure	184	11.1%
Others	42	2.5%
No any practices	781	47.2%

Table 49k. Number and percent of holdings reporting accumulations of water on soil and changes in soil, Khairahani Municipality

During heavy rain, do large volumes of water accumulate on the agricultural soil surface?	Number of holdings	Percent
Yes	4484	40.3%
No	6646	59.7%
Total	11131	100.0%
When water accumulates on the soil surface and runs, how does it appear?		
The water is clear	2180	100.0%
The water is not clear and/or is brown because it contains a lot of soil	1689	77.5%
Don't know	616	28.2%
Total	4484	100.0%
Type of soil changes observed during last five years		
Change in soil colour	446	4.0%
Easyness to plough or work in soil	2702	24.3%
Difficulties to plough or work in soil	1192	10.7%
Easyness to emerge crops after planting	2464	22.1%
Difficulties to emerge crops after planting	1784	16.0%
Change in the amount of stones present in the soil	82	0.7%
None of above	5737	51.5%
Total number of holdings	11131	100.0%

Table 50k. Number, percent and are of holding reporting soil degradation threats on the holding in last three years by types of soil degradation, Khairahani Municipality

Particulars	Number of holdings	Percent
Total number of holdings reporting	11131	100.0%
Types of soil degradation		
No soil degradation	4575	41.1%
Acidity of soil	725	6.5%
Imbalance use of chemical fertilizer	947	8.5%
Soil erosion (loss of topsoil through wind or water erosion)	74	0.7%
Waterlogging, including by floods	174	1.6%
Other	152	1.4%
Don't know	4815	43.3%
	Area in hectare	
Area of the holding affected by any of the threats in last three years		511.5

Table 51k. Number and area of holding reporting irrigation crops on the holding over the last three years, Khairahani Municipality

Holding reporting irrigation crops on the holding over the last three years	Number of holdings	Percent
Yes	10318	96.8%
No, there is no irrigation available	187	1.8%
No, I can't afford irrigation	0	0.0%
No, I don't need irrigation	155	1.5%
Total	10660	100.0%

Table 52k. Number of holding reporting by method used for irrigation on the holdings, Khairahani Municipality

Method used for irrigation	Number of holdings	Percent
Total number of holding reporting irrigation	10318	100.0%
Method used for irrigation		
Surface irrigation	9396	91.1%
Sprinkler irrigation/Spray Irrigation	304	2.9%
Drip irrigation	0	0.0%
Other	741	7.2%

Table 53k. Number of holding reporting source of Irrigation during reference period, Khairahani Municipality

Sources of Irrigation	Number of holdings	Percent
Total number of holding reporting irrigation	10318	100.0%
Source of irrigation		
Underground Water	4193	40.6%
Surface water of Low land (KHET)	3033	29.4%
Surface water outside Low land (KHET)	904	8.8%
Dam/Reservoir/Canal	3113	30.2%
Tap water	789	7.6%
Rainfall	1194	11.6%
Harvested rainwater	114	1.1%
Other source	108	1.0%

Table 54k. Number of holdings reporting any observation of reduction in water availability from well or other sources over the last three years, Khairahani Municipality

Response of the holdings	Number of holdings	Percent
No, water is always available in sufficient quantity	5545	52.0%
Yes, water level in my well(s) is progressively going down	1353	12.7%
Yes, water in river, lake or canal is getting scarce	1423	13.4%
I do not know	2339	21.9%
Total	10660	100.0%

Table 55k. Number of holding reporting Irrigation organization with water allocation in the area during the reference period, Khairahani Municipality

Organizations dealing with water allocation in the area	Number of holdings	Percent
Yes, and they are working well	1914	18.0%
Yes, but they are not working well	1143	10.7%
No, there are none	3835	36.0%
No, I don't know	3768	35.3%
Total	10660	100.0%

Table 56k. Number of holding reporting environmental risks associated with the use of chemical and mineral fertilizer, Khairahani Municipality

Particulars	Number of holdings	Percent
Do you know about the environmental risks associated with the use of chemical and mineral fertilizers?		
Yes	5929	55.3%
No	4794	44.7%
Total	10723	100.0%
Effort made to reduce environmental risk		
Yes	2895	48.8%
No	3034	51.2%
Total	5929	100.0%
Type of effort made to reduce environmental risk		
Follow protocols as per extension service or?.	1793	61.9%
Use of balanced compost and chemical fertilizer	2376	82.1%
Use legumes as a cover crop, or multi/crop	1107	38.2%
By animal grazing	0	0.0%
Using chemical fertilizer in appropriate time gap	1335	46.1%
Using required qty. of fertilizer by considering soil type a	632	21.8%
Testing of soil once in every 5 years	221	7.6%
Others	0	0.0%
Total	2895	100.0%

Table 57k. Number of holdings reporting use of pesticides on the holding during reference period, Khairahani Municipality

Particulars	Number of holdings	Percent
Use of pesticides for crop or livestock production		
Yes	9307	86.8%
No	1416	13.2%
Total	10723	100.0%
Type of pesticides used		
Green (safe)	2771	29.8%
Blue (medium)	2821	30.3%
Yellow (strong)	3507	37.7%
Red (very strong)	208	2.2%
Total	9307	100.0%
Did the holding take specific measures to protect people from health-related risks?		
Yes	7238	72.0%
No	2819	28.0%
Total	10058	100.0%
Type of efforts made to safe from risk of pesticide		
Adherence to label directions for pesticide use	4946	68.3%
Safe disposal of waste (cartons, bottles and bags)	4897	67.7%
Use of safety gear during application	6261	86.5%

Table 58k. Number of holding reporting effort made to control crop or livestock related diseases during reference period, Khairahani Municipality

Particulars	Number of holdings	Percent
Did holding made effort to control crops or livestock related diseases?		
Yes, Crops related	2713	23.6%
Yes, Livestock/poultry related	1199	10.4%
Yes, Both	2427	21.2%
No	5135	44.8%
Total	11474	100.0%
Types of efforts adopt in relation to plant pest control		
Total number of holding	5140	100.0%
Adherence to label directions for pesticide	4272	83.1%
Adjustment of planting time	1556	30.3%
Application of crop spacing	1360	26.5%
Application of crop rotation	2721	52.9%
Application of mixed cropping inter-cropping	289	5.6%
Perform biological pest control	1556	30.3%
Use of disease resistant/tolerant cultivars	604	11.8%
Systematic removal of plant parts attacked by pests	475	9.2%
Maintenance and cleansing of spray equipment after use	299	5.8%
Plants quarantining	34	0.7%
Types of efforts adopt in relation to animal disease control		
Total number of holding	3626	100.0%
Adherence to label directions for medicine application	3244	89.5%
Perform biological medicine control	1350	37.2%
Adopting pasture rotation to suppress livestock pest populat	80	2.2%
Maintenance and cleansing of spray equipment after use	745	20.6%
Animals quarantining	191	5.3%
Use of disease resistant/tolerant livestock breed	39	1.1%

Table 59k. Number of holding reporting rice cultivation on the holding during reference period, Khairahani Municipality

Particulars	Number of holdings	Percent
Rice cultivation on the holding		
Yes	9730	99.7%
No	30	0.3%
Total	9760	100.0%
Frequency of rice cultivating cycles during the reference period		
One time	3995	41.1%
Two time	5715	58.7%
Three time	21	0.2%
Types of Rice cultivation		
Masino Rice (Fine)	7705	79.2%
Motto Rice (Coarse rice)	4968	51.1%
Irrigation methods and water regimes used during the growing period of RICE		
Total number of holdings	9760	100.0%
Irrigated, continue flow	2050	21.0%
Irrigated, Dry/flow	5744	58.9%
According to rainfall	1966	20.1%
Types of compost (organic) fertilizer added to the soil before the cultivation of rice during the reference period.		
Farm yard manure	6735	69.0%
Compost fertilizer	1014	10.4%
Green manure	125	1.3%
Others	50	0.5%
Not use at all	2921	29.9%
Rice planting techniques used during the reference period.		
Plantation	8501	87.1%
Seed spread	149	1.5%
Mixed	1111	11.4%

Table 60k. Number of holdings reporting veterinary service used and types of veterinary service used during reference period by types of livestock/poultry, Khairahani Municipality

Livestock/Poultry	Number of holdings	Veterinary services used on the holdings		Type of veterinary service used by agriculture holdings		
		Yes	No	Reproduction	Curative	Preventive
Cattle	4949	3885	1064	2242	3529	2104
Buffalo	2753	1380	1372	367	1199	409
Goat	4508	2528	1980	367	2347	1105
Pig	146	0	146	0	0	0
Poultry	3687	670	3017	48	597	131

Table 61k. Number of holdings reporting method of conceive and main service provider of reproduction service used by the holdings during reference period by types of livestock/poultry, Khairahani Municipality

Livestock/Poultry	Method of conceive for livestock		Main service provider of reproduction service				
	Natural fertilization method	Artificial fertilization method	Pvt. veterinary technician	Govt. veterinary technician	Own management	Rural livestock health worker	Others
Cattle	0	2242	1757	92	347	0	47
Buffalo	64	303	258	76	34	0	0
Goat	295	72	367	0	0	0	0
Pig	0	0	0	0	0	0	0
Poultry	48	0	48	0	0	0	0

Table 62k. Number of holdings reporting antibiotics and growth promoter used by holding during reference period by types of livestock/poultry, Khairahani Municipality

Livestock/Poultry	Used of antibiotics			Used of Growth promoter		
	Yes	No	Don't know	Yes	No	Don't know
Cattle	2376	2500	73	1073	3149	726
Buffalo	983	1726	43	430	1896	426
Goat	1456	2973	79	634	2799	1076
Pig	0	146	0	0	98	48
Poultry	1039	2539	109	703	2556	428

Table 63k. Number of holdings reporting livestock and poultry housing condition on the holding during reference period, Khairahani Municipality

Particulars	Number of holdings	Percent
Have livestock kept in residential buildings		
Yes	3193	33.6%
No	6299	66.4%
Total	9492	100.0%
Have ventilation system in buildings of poultry on the holding		
Yes	712	7.5%
No	8780	92.5%
Total	9492	100.0%
Have ventilation system in buildings of livestock (animal) on the holding		
Yes	1185	12.5%
No	8307	87.5%
Total	9492	100.0%
Maintain temperature in the building of livestock and poultry		
Yes	239	2.5%
No	9253	97.5%
Total	9492	100.0%

Table 64k. Number of holding reporting produce of manure on the holding during reference period, Khairahani Municipality

Particulars	Number of holdings	Percent
Total number of holding reporting	9097	100.0%
Types of manure produced on the holding		
Farm yard manure	8043	88.4%
Compost manure	907	10.0%
KUKHURA KO SULI	2874	31.6%
Bio gas slurry	670	7.4%
Liquid manure	50	0.6%

Table 65k. Number of holding reporting and quantity of sold or given to other and purpose of produced manure during the reference period, Khairahani Municipality

Types of compost manure	Number of holdings reporting produced manure sold or give to other	Quantity of produced manure exchange with commodity or service	Quantity of produced manure sold	Quantity of produced manure give without cost	Number of holding reporting use of produced manure for other purpose except agriculture activities	Number of holdings reporting types of purposes of produced manure used		
		Kilogram				For energy	For construction	For feeding
Farm yard manure	800	238787	6117949	0	1771	1368	0	509
KUKHURA KO SULI	30	14994	0	2999	0	0	0	0

Table 66k. Number of holdings reporting percentage of using traditional and improved manure management system by types of manure. Khairahani Municipality

Types of produced manure	Using Traditional manure management system				Using Improved manure management system			
	Number of holdings				Number of holdings			
	Upto 25%	26% to 50%	51% to 75%	76% and over	Upto 25%	26% to 50%	51% to 75%	76% and over
Farm yard manure	123	81	150	7689	7689	231	0	123
Compost manure	0	0	0	907	907	0	0	0
KUKHURA KO SULI	34	62	64	2714	2714	125	0	34
Bio gas slurry	88	0	0	582	582	0	0	88
Liquid manure	0	0	0	50	50	0	0	0

Table 67k. Number of holding reporting, monitoring market condition before selling products from holdings and visits by agriculture technician for technical support during the reference period, Khairahani Municipality

Particulars	Number of holdings	Percent
Keeping information of market condition before selling products from holding		
Yes	4827	42.1%
No	6647	57.9%
Total	11474	100.0%
Number of visits by agriculture technician for technical support		
None	8698	75.8%
One visit	593	5.2%
Two to four visits	1148	10.0%
Five to nine visits	658	5.7%
Ten or more visits	377	3.3%
Total	11474	100.0%
Number of visits of agri. technician sufficient or not		
Yes	2030	73.1%
No	746	26.9%
Total	2776	100.0%
Reason for not visit / not sufficient visit by technician		
Not necessary	2409	25.5%
Far away	442	4.7%
Service provider busy	300	3.2%
Not available	811	8.6%
Not interested to come	2445	25.9%
Others	3036	32.2%
Total	9444	100.0%

Table 68k. Number of holdings reporting Development projects, awareness, participation and reasons for not participating, Khairahani Municipality

Particulars	Number of holdings	Percent
Awareness of any specific agricultural development projects being carried out in the holding's community or neighborhood during the reference period		
Yes	1074	9.4%
No	10400	90.6%
Total	11474	100.0%
Holding participated in the development project(s)		
Yes	398	37.1%
No	675	62.9%
Total	1074	100.0%
Objective of development project(s) on which holding participate		
Capacity building	169	42.5%
Support in factors of production like seeds	133	33.3%
Mechanization and infrastructural development	0	0.0%
Subsidies/ grant	63	15.8%
Others	34	8.4%
Total	398	100.0%
Reason for not participation in development project(s)		
Not interested in participating	30	4.4%
Interested in participating, but there was no possibility to participate	198	29.3%
Lack of opportunity	362	53.6%
Others	85	12.7%
Total	675	100.0%

Table 69k. Number of holdings reporting access to facilities by types of transportation and required time taken for the holding during reference period, Khairahani Municipality

Types of transportation	Total number of holdings	Types of facilities						
		Market	Govt. Agri/ Livestock service office	Pvt. Veterinary clinic	Agrovet / Pharmacy	Rural livestock/Ag ri. health worker	Food / Cold storage	Agri. processing center
Number of holding have access to facilities	11474	10323	7165	9355	10798	3638	259	2202
	100.0%	90.0%	62.4%	81.5%	94.1%	31.7%	2.3%	19.2%
Types of transportation	Time taken							
By foot	Under 30 minutes	1644	873	2419	3172	1038	0	890
	30 to 59 minutes	74	24	50	44	50	0	0
	1 - 2 hours	68	44	44	44	0	0	0
	More than 2 hours	44	0	94	149	0	0	0
Cycle/Rikshaw	Under 30 minutes	3273	1844	3373	3269	1298	117	971
	30 to 59 minutes	482	266	141	141	88	0	30
	1 - 2 hours	24	25	25	0	0	0	0
	More than 2 hours	0	66	0	0	0	0	0
Motorcycle	Under 30 minutes	2234	1650	2063	2473	648	117	146
	30 to 59 minutes	96	201	0	0	58	25	0
	1 - 2 hours	0	0	0	0	0	0	0
	More than 2 hours	0	0	0	44	44	0	0
Four-wheeler	Under 30 minutes	701	179	199	409	19	0	67
	30 to 59 minutes	307	443	19	41	0	0	0
	1 - 2 hours	0	299	0	0	0	0	0
	More than 2 hours	0	74	0	0	0	0	0
Mixed	Under 30 minutes	864	578	525	783	86	0	74
	30 to 59 minutes	337	501	176	68	176	0	0
	1 - 2 hours	0	74	44	44	88	0	0
	More than 2 hours	0	0	88	42	18	0	0
Others	Under 30 minutes	124	25	50	75	25	0	25
	30 to 59 minutes	50	0	44	0	0	0	0
	1 - 2 hours	0	0	0	0	0	0	0
	More than 2 hours	0	0	0	0	0	0	0

Table 70k. Number of holding reporting adaptation to climate change and mitigation strategies during reference period, Khairahani Municipality

Particulars	Number of holdings	Percent
Did natural extreme events or disasters hit the holding during the reference period?		
Yes, economic impact	703	6.1%
Yes, physical impact	105	0.9%
Yes, human impact	0	
No	10666	93.0%
Total	11474	100.0%
Economic Impact		
Lack in income	509	72.5%
Decrease in production	571	81.3%
Crops damage in storage	30	4.2%
Others	44	6.3%
Not affected	48	6.8%
Total	703	100.0%
Physical Impact		
Loss of land		
Loss of crops	81	77.1%
Loss of livestock/poultry	24	22.9%
Loss of fish		
Loss of timber/wood		
Loss/damage of building		
Other physical loss		
Not affected		
Total	105	100.0%
Mitigation strategy done by holdings for adaptation of climate change		
Total number of holdings reporting know about climate change	11474	100.0%
Multi-Crops practice to adapt climate change	1054	9.2%
Crops transformation practice to adapt climate change	795	6.9%
Use of traditional farm practice and knowledge to adapt climate change	1356	11.8%
Use of traditional crops and livestock to adapt climate change	870	7.6%
Use of local seeds to adapt climate change	1907	16.6%
Use of new practice or technology to adapt climate change	465	4.0%
Change in race to adapt climate change	917	8.0%
Other practice done to adapt climate change	25	0.2%
No any practice done to adapt climate change	2087	18.2%

Table 71k. Number of holding reporting waste generating by the holdings during reference period by the types of waste, Khairahani Municipality

Particulars	Number of holdings	Percent
Total number of holding	11474	100.0%
Types of waste		
Non-functioning vehicles	3115	27.1%
Empty packaging of plant protection products (PPPs)	6703	58.4%
Empty packaging of fertilizer products	5695	49.6%
Empty packaging of diesel, gasoline or other petroleum products	152	1.3%
Empty packaging of seeds	6165	53.7%
Used plastic film	6531	56.9%
Ropes and nets (used for forage conditioning or viticulture)	1396	12.2%
Plant protection products (PPPs) that are no longer usable	1039	9.1%
Veterinary waste	1482	12.9%
Fruit-soaking fungicidal liquids	1227	10.7%
Other non-hazardous organic waste	712	6.2%
Other non-hazardous inorganic waste	389	3.4%
Other hazardous waste	243	2.1%
None	408	3.6%

Table 72k. Number of holding reporting treatment and method used for waste generated on the holdings during the reference period, Khairahani Municipality

Particulars	Number of holdings	Percent
Total number of holding	11474	100.0%
Treatment used by the holding for the waste generated on the holding during the reference period.		
Waste taken away from the holding by a professional	4775	41.6%
Waste kept on the holding, treated by burning	2554	22.3%
Waste kept on the holding, treated by burying	331	2.9%
Waste kept on the holding, other treatment	870	7.6%
Waste kept on the holding, no treatment	250	2.2%
Methods used during the reference period to manage the wastewater generated by the holding.		
Discharged to a constructed retention or holding pond	4552	39.7%
Discharged to a septic or sewer system	1247	10.9%
Applied to agricultural land	3884	33.8%
Included in the liquid manure system	0	0.0%
Not managed, removed through natural drainage	1619	14.1%
Other	172	1.5%

PART-V

SURVEY QUESTIONNAIRE

PILOT AGRICULTURE INTEGRATED SURVEY 2019, CHITWAN

CORE MODULE

1. ENUMERATION DETAILS										
						Form Number				
1.1	Province									
1.2	District									
1.3	Local Level									
1.4	Ward Number									
1.5	Village/Tole Name									
1.6	Enumeration Area Control Number									
1.7	Agriculture Holding serial Number									
1.8	GPS code of Agriculture holding									
1.9	Holder/ entrepreneurs name					For registered only		→ 2.1.1		
1.10	Sex	1 Male		2 Female						
1.11	contact number									
1.12	Respondent									
1.13	Relation to Head of Agriculture Holding									
	Himself a Head of Holding									
	<input type="radio"/> Manager									
	<input type="radio"/> Employee Household									
	<input type="radio"/> Member					→ 2.3.1				
Enumerator Name.....					Signature of Enumerator.....					
Date of Enumeration.....										
Supervisor Name										
.....					Signature of Supervisor.....					
Date of Supervision.....										

SECTION 2: THE HOLDING

PART 2.1 GENERAL INFORMATION

- 2.1.1 Place of Registration (Fill in all that apply)
- District Agriculture Office/Agriculture Knowledge Center
 - District Livestock Office/ District livestock Service Office
 - Company Registered Office
 - Local body (VDC/NP/M/RM)
 - Cottage and Small Industry Development Committee
 - Others
- 2.1.2 What is the status of the holding? Ask only for commercial agriculture holding
- Personal
 - Partnership
 - Public Limited
 - Private Limited
 - government
 - Others

PART 2.2 CHARACTERISTICS OF THE REGISTERED HOLDING

- 2.2.1 Name of operators
- 2.2.2 What is the number of persons participating in the capital of the company?
- 2.2.3 Who is the manager of this holding / company?
- Operator own → 2.2.5
 - Manager
- 2.2.4 Name of Operator/ Manager
- 2.2.5 Contact number (preferably cell phone)
- 2.2.6 Email
- 2.2.7 Sex
- Male
 - Female
- 2.2.8 Age in completed years
- 2.2.9 Highest level of education completed
- Illiterate
 - Less than primary
 - Basic education (1 to 8 class)
 - Secondary level (9 to 12 class)
 - Upper secondary/ University education
- 2.2.10 Share of working time spent working on the holding
- Less than half (< 40 %)
 - About half (40%-59%)
 - Most/almost all (60%-99%)
 - All (100%)
- 2.2.11 Does the Manager have another gainful activity outside of the holding? (If operator own)
- No
 - Yes

PART 2.3: AGRICULTURAL ACTIVITY

- 2.3.1 What is the operational status of the holding? Ask only for Individual agriculture holding
- Single-holding household
 - Multi-holding household
 - Partnership of two or more households
- 2.3.2 Does the holding record its agricultural activity or finances on registers or logbooks?
- No, never → 2.3.4
 - Yes, only occasionally or partially
 - Yes, systematically
- 2.3.3 What information is systematically registered? (Fill in all that apply)
- Area cultivated/harvested
 - Crop production
 - Livestock production
 - Unit prices, amounts sold and total sales by product
 - Input quantities used (seeds, fertilizers, plant protection products, etc.)
 - Detailed quantities and prices of inputs bought
 - Workers' time
 - Workers' payment
 - Other
- 2.3.4 From an economic perspective, what is the holding's main agricultural focus for the reference period?
- Mainly crop production
 - Mainly livestock production → 2.3.6
 - Fish farming → 2.3.7
 - Bee Keeping → 2.3.8
 - Mushroom → 2.3.8
 - Floriculture → 2.3.8
 - Silkworm → 2.3.8
- 2.3.5 From an economic perspective, what is the main cropping activity?
- Production of Cereal Crops
 - Production of Pulses
 - Production of Tubers
 - Production of Oilseeds
 - Production of Cash Crops
 - Production of Spices
 - Production Vegetable crops
 - Production of Fodder grass
 - Production of Fruits → 2.3.8
- 2.3.6 From an economic perspective, what is the main livestock activity?
- Raising livestock for meat (Buffalo, sheep, goats, pigs, etc.)
 - Raising birds for meat (poultry)
 - Production of eggs
 - Production of milk → 2.3.8

2.3.7 From an economic perspective, what is the main fishery activity?

- nursery raising
- Fishery for fish production

2.3.8 What is the main intended destination of your agricultural production?

- Producing primarily for sale (selling 90% or more)
- Producing mainly for sale, with some own consumption (selling more than 50% and up to 90%)
- Producing mainly for own consumption, with some sales (selling more than 10% and up to 50%)
- Producing primarily for own consumption (selling 10% or less)

PART 2.4 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE HOUSEHOLDS OF THE HOLDER

2.4.1 Information of the household member												Male	Female
												Number of usual family member	
												Absentees(outside the country)	
												Absentees(with in a country)	
Serial No.	Name of the member of the household(Write the name of holder, household head and other members serially)	Sex 1 Male 2 Female	Age (Years Completed)	Relationship to Head of holding	Marital Status	Education (Only for 5 years and Older)	Did [NAME] attend school during the current/last school year? (For age 5 to 40 years) 1 Yes 2 No	Occupation (Only for 10 years and older)	Has [NAME] ever received any formal training on agriculture? (Age greater than 15 years) 1 Yes 2 No	Does [NAME] participate in decisions concerning crops and livestock (Age greater than 15 years) 1 Yes 2 No	How much time does [NAME] spend working on the holding in the reference period? 1. Less than half (<40%) 2. About half (40%-59%) 3. Most (60%-99%) 4. All (100%)	Does the [NAME] have another gainful activity outside of the holding? (Only for 10 years and older) 1 Yes 2 No → Secion 3	What is the another gainful activity of [NAME] outside the holding? (Write code)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	<i>Name of the holder</i>												
2													
3													
4													
5													

Education Code 1 Illiterate 2 Less than primary 3 Basic education (1 to 8 class) 4 Secondary level (9 to 12 class) 5 Upper secondary/ Unversity education	Marital Status Code 1 Never Married 2 Single Married 3 Poly Married 4 Re-Married 5 Widow/Widower 6 Divorced	Relationship Code 1 Household Head 2 Spouse 3 Son/Daughter-in-law 4 Daughter/Son-in-law 5 Parent 6 Sibling 7 Grandchild 8 Household Worker 9 Other	Occupation Code 1 Armed forces occupations 2 Managers 3 Professionals 4 Technicians and associate professionals 5 Clerical support workers 6 Service and sales workers 7 Skilled agricultural, forestry and fishery workers 8 Craft and related trades workers 9 Plant and machine operators, and assemblers 10 Unskilled worker at elementary occupations 11 Household chores 12 Student
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SECTION 3: CROP PRODUCTION DURING THE REFERENCE PERIOD

PART 3.1: LAND TENURE AND AREA UTILIZED

UNIT OF AREA

BIGHA 1 ROPANI 2

3.1.1 What is the tenure and area of the agricultural land used by the holding during the reference period?

S.N.	Types of Land Tenure	B/R	K/A	D/P
1	Owned or owner-like possession			
2	Rented based on agreed sum of Money			
3	Rented based on agreed Quantity Produced			
4	Rented based on share of Produce			
5	Rented based on exchange for Service			
6	Other rented agreement			
7	Other type of land tenure			

3.1.2 What was the area used for the following agricultural purposes?

S.N.	Agricultural area utilized	B/R	K/A	D/P
1	Temporary crops(outside greenhouse)			
2	Temporary crops under greenhouses			
3	Temporary fallow			
4	Temporary meadows and pastures			
5	Permanent crops			
6	Permanent Fallow			
7	Other type of area used for Agriculture			

3.1.3 What was the area of the holding used for other purposes than crop production?

S.N.	Area Utilized	B/R	K/A	D/P
1	Farm buildings, Kitchen gardens and backyards			
2	Forest and other wooded land			
3	Aquaculture on the holding			
4	Other land (unutilised, rocks, wetlands, etc.)			

3.1.4 Does this holding have agricultural lands registered under a woman's name?

Yes

No → 3.1.6

3.1.5 Total area under Women's name?

B/R	K/A	D/P	No. of women with land ownership

3.1.6 Was any agricultural land affected by disasters during the reference period?

Yes

No → 3.2.1

3.1.7 Area of agricultural land affected by disasters during the reference period.

S.N.	Type	B/R	K/A	D/P
1	Physical			
2	Chemical			

PART 3.2: TEMPORARY CROP PRODUCTION AND DESTINATIONS

3.2.1 Did the holding grow temporary crops during the reference period, whatever the production or destination?

- Yes
 No → 3.3.1

3.2.2 Provide the information about name of the temporary crop, area and production for the reference period.

Parcel No	Name of Parcel	Name of Crop	Sown/cultivated area			Crop harvested area			Quantity of production (KG)
			B/R	K/A	D/P	B/R	K/A	D/P	

3.2.3 How was the production of [CROP] compared to the same harvest of the previous year?

- Similar → 3.2.5
 Greater → 3.2.5
 Lower
 Not applicabel → 3.2.5

3.2.4 How much [CROP] was lost due to disasters was lost as compared to the previous year?

3.2.5 What were the by-products produced on the holding during the reference period [CROP]?

S.N.	Name of by- product	Quantity of Production (KG)	Quantity sold (KG)
१			
२			
३			

3.2.6 Answer the following questions about the destinations of the holding's production [CROP] during the reference period.

- Quantity of [CROP] for own use
 Quantity of [CROP] sold
 Quantity of [CROP] for animal feeding
 Quantity of [CROP] used as pay for labour as wages KG
 Quantity of [CROP] given to service or input providers KG

- 3.2.7 Did the holding have a stock of [CROP] stored during reference year?
- Yes (KG)
- No
- 3.2.8 Report the stock stored on the holding and off of the holding during the reference period.
- Quantity of [CROP] stored on the holding
- Quantity of [CROP] stored at a location off of the holding
- Quantity of [CROP] stored as seed
- Quantity of [CROP] lost in post-harvest handling
- Quantity of [CROP] lost due to disasters
- 3.2.9 Quantity of chemical fertilizers used on [CROP] During the reference period
- Uria(KG)
- D.A.P(KG)
- Potash(KG)
- Others(KG)
- 3.2.10 What were the main reason for not using the chemical fertilizers during the reference period.
- Too expensive
- Not available
- Not necessary
- Other
- 3.2.11 Quantity of organic fertilizers used on [CROP] During the reference period
- Quantity produced on the holding (KG)
- Quantity of organic fertilizers that was purchased(KG)
- Quantity of organic fertilizers that was exchanged for goods and/or services(KG)
- 3.2.12 What were the main reason for not using the organic fertilizers during the reference period.
- Too expensive
- Not available
- Not necessary
- Other
- 3.2.13 Were plant protection products used on [CROP] during reference period?
- Yes
- No
- 3.2.14 What percentage of [CROP] area was irrigated during the reference year?
- 3.2.15 Was [CROP] cultivated together with other crops (at the same time in the same parcel)?
- No
- Yes, for all of the crop
- Yes, for a part of the crop
- 3.2.16 Answer the following questions about the type of seeds used for [CROP] during the reference period.
- How many varieties of [TEMPORARY CROP] were planted on the holding?
- Quantity of the [TEMPORARY CROP] seed consisted in improved varieties
- KG

- Quantity of the [TEMPORARY CROP] seed consisted in hybrid varieties
 - Quantity of the [TEMPORARY CROP] seed consisted in local varieties
- 3.2.17 Report the Quantity of source of local seeds of [TEMPORARY CROP].
- Quantity produced on the holding (KG)
 - Quantity obtained at exchanges within the community
 - Quantity purchased from local market
 - Quantity purchased from seed company
 - Quantity received as a subsidy
- 3.2.18 Were the traditional seeds of [TEMPORARY CROP] adapted to local conditions and stresses?
- No
 - Yes
 - Not known
- 3.2.19 Does the holding have a marketing contract for [CROP]?
- Yes
 - No
- 3.3.1
- 3.2.20 how much percentage of crop grown by holding is cover by marketing contract?
(Note: Repeat the questions for all temporary crops listed in 3.2.2).

PART 3.3: PERMANENT CROP PRODUCTION AND DESTINATIONS

- 3.3.1 Did the holding grow permanent crops during the reference period?
- No → 4.1.1
 - Yes
- 3.3.2 Provide the information about name of the permanent crop, area and production for the reference period.

S.N.	Parcel Number	Name of Crop	Crop plantations with homogeneous plot								No. of scattered trees		Production Quantity (KG)	If 0 in column 8,9 and 11 →3.3.7	
			Trees plantation area				Area in Production				Trees in production	Trees not in production			
			B/R	K/A	D/P	No.of trees	B/R	K/A	D/P	No.of trees					
1	2	3	4			5	6	7			8	9	10	11	

- 3.3.3 Answer the following questions about the destinations of the holding's production OF MAJOR CROPS during the reference period.
- quantity of [CROP] for own use
 - quantity of [CROP] sold
 - quantity of [CROP] for animal feeding
 - quantity of [CROP] used as pay for labour as wages
 - quantity of [CROP] given to service or input providers

3.3.4 Report the stock stored on the holding and off of the holding during the reference period.

- Quantity of [CROP] stored on the holding
- Quantity of [CROP] stored at a location off of the holding
- Quantity of [CROP] lost in post-harvest handling?
- Quantity of [CROP] lost due to disasters

3.3.5 How was the production of [CROP] compared to the same harvest of the previous year?

- Similar → 3.3.7
- Greater → 3.3.7
- Lower

3.3.6 How much [CROP] was lost due to disasters was lost as compared to the previous year?

kg.

3.3.7 What were the by-products produced on the holding during the reference period [CROP]?

S.N.	Name of by- product	Production Qunatity (KG)	Sold Quantity (KG)
1			
2			
3			

3.3.8 Quantity of chemical fertilizers used on [CROP] During the reference period

- Uria(KG)
- D.A.P(KG)
- Potash(KG)
- Others(KG)

3.3.9 What were the main reason for not using the chemical fertilizers during the reference period.

- Too expensive
- Not available
- Not necessary
- Other

3.3.10 Quantity of organic fertilizers used on [CROP] During the reference period

- Quantity produced on the holding (KG)
- Quantity of organic fertilizers that was purchased(KG)
- Quantity of organic fertilizers that was exchanged for goods and/or services (KG)

3.3.11 What were the main reason for not using the organic fertilizers during the reference period.

- Too expensive
- Not available
- Not necessary
- Other (specify)

3.3.12 Were plant protection products used on [CROP] during reference period?

- Yes

- No
- 3.3.13 What percentage of [CROP] area was irrigated during the reference period?
- 3.3.14 Was [CROP] cultivated together with other crops (at the same time in the same parcel)?
- No
- Yes, for all of the crop
- Yes, for a part of the crop
- 3.3.15 Does the holding have a marketing contract for [CROP]?
- Yes
- No → 4.4.1
- 3.3.16 how much percentage of crop grown by holding is cover by marketing contract?
- (Note: Repeat the questions for all permanent crops listed in 3.3.2).

SECTION 4: LIVESTOCK PRODUCTION DURING THE REFERENCE PERIOD

PART 4.1: RAISING ACTIVITIES AND PRODUCTION

- 4.1.1 Are/Were livestock raised on the holding during the reference period/enumeration day?
- Cattle
- Buffalo
- Sheep
- Goats
- Pig
- poultry
- Others (Bee, Fishery)
- None of above
- 4.1.2 Do you register the main events about the livestock you raise (births, sales, production, etc.)?
- Yes
- No
- 4.1.3 CATTLE
- 4.1.3.1 Were cattle raised on the holding during the reference period?
- Yes, in the reference period
- Yes, in the enumeration day
- No → 4.1.4.1

4.1.3.2 Provide the information of Cattle raised on the holding.

S.N.	Cattle raised on the holding		Number of cattle as of enumerator day			Number of birth during reference period	Number of death animals during reference period		Number of animals purchased during reference period	Number of animals sold during reference period	Number of animals received in full subsidies or free of cost
			Total	Local	Improved		Death from natural causes	Death from disasters			
1	2		3	4	5	6	7	8	9	10	11
	Cattle	Less than one year	M calf								
			F calf								
		Over one year and less than three years	M calf								
			F calf								
		Over three years or three years	Ox								
			Milking cow								
			Non milking cow								

4.1.3.3 Number of cows with different breeds and milk production

Name of animal	S.N.	Varieties	Number	Number of cows in lactation	Do you allow calves to suckle directly from a cow? Yes 1 No 2	Daily average milk production per animal per day	Lactation period (month)
1	2	3	4	5	6	7	8
Cow	1	Local					
	2	Jersey					
	3	Holstein Friesian					
	4	Others (improved)					

- 4.1.3.4 Report the share of milk used in the following ways during the week of enumerator day.
- Own use for human consumption liter
 - Sold as raw milk liter
 - Processed on the holding into milk products liter
 - Given to young animals liter
 - Destroyed by disasters liter
 - Other (specify liter
- 4.1.3.5 If the share of raw milk sold is greater than 0%, price per liter RS.
- 4.1.3.6 Did the holding have a marketing contract for the milk production of cattle in the reference period?
- Yes
 - No → 4.1.3.8
- 4.1.3.7 What percentage of milk production was covered by marketing contract in the reference year?
- 4.1.3.8 Number of male cattle used for traction or draught purposes during reference period
- 4.1.3.9 What was the major feeding practices for the cattle during the reference period?
- Only grazing
 - Mainly straw/green grass /silage, with some feeding
 - Mainly feeding, with some straw/green grass /silage
 - Only feeding
- 4.1.3.10 What was the sources of feed used during the reference period?
- Produced on the holding
 - Common pasture
 - Purchased
 - Exchanged
- 4.1.3.11 What was the main type of animal housing system that was used for cattle on the holding during the reference period?
- Managed
 - Semi managed
 - Unmanaged
- 4.1.4 BUFFALOES
- 4.1.4.1 Were buffalo raised on the holding during the reference period?
- Yes, in the reference period
 - Yes, in the enumerator day
 - No → 4.1.5.1

4.1.4.2 Provide the information of Buffalo raised on the holding.

S.N.	Buffalo raised on the holding		Number of buffalo as of enumerator day			Number of birth during reference period	Number of death animals during reference period		Number of animals purchased during reference period	Number of animals sold during reference period	Number of animals received in full subsidies or free of cost
			Total	Local	Improved		Death from natural causes	Death from disasters			
1	2		3	4	5	6	7	8	9	10	11
Buffalo	Less than one year	M calf									
		F calf									
	Over one year and less than three years	M calf									
		F calf									
	Over three years or three years	M buffalo									
		Milking buffalo									
		Non milking buffalo									

4.1.4.3 Number of buffalos with different breeds and milk production

Name of animal	S.N.	Varieties	Number	Number of cows in lactation	Do you allow calves to succle directly from a cow? Yes 1 No 2	Daily average milk production per animal per day	Lactation period (month)
1	2	3	4	5	6	7	8
Buffalo	1	Local					
	2	Murrah					
	3	Murrah cross					
	4	Nili-ravi					
	5	Others (improved)					

4.1.4.4 Report the share of milk used in the following ways during the week of enumerator day.

- Own use for human consumption Liter
- Sold as raw milk Liter
- Processed on the holding into milk products Liter
- Given to young animals Liter
- Destroyed by disasters Liter
- Other (specify) Liter

4.1.4.5 If the share of raw milk sold is greater than 0%, price per liter RS.

- 4.1.4.6 Were any buffalo slaughtered for meat on the holding during the reference period?
- Yes
- No → 4.1.4.12
- 4.1.4.7 Give the information about buffalo slaughtered on the holding during the reference period.
- Number of buffalos slaughtered
- Total carcass weight obtained (KG)
- 4.1.4.8 Report the Quantity of buffalos meat used in the following ways during the reference period- slaughtered on the holding.
- Quantity of meat for own use(KG)
- Quantity of meat sold(KG)
- Quantity of meat given to service or input providers (KG)
- Destroyed stored meat by disasters(KG)
- 4.1.4.9 If the quantity of meat sold is greater than 0 KG, price per KG (RS).
- 4.1.4.10 Did the holding have a marketing contract for the milk and meat production of Buffalo in the reference period?
- Yes, for meat
- Yes, for milk
- No → 4.1.4.12
- 4.1.4.11 What percentage of milk and meat production was covered by marketing contract in the reference year? %
- 4.1.4.12 Number of male buffalos used for traction or draught purposes during reference period
- 4.1.4.13 What was the major feeding practices for the buffalo during the reference period?
- Only grazing
- Mainly straw/green grass /silage, with some feeding
- Mainly feeding, with some straw/green grass /silage
- Only feeding
- 4.1.4.14 What was the sources of feed used during the reference period?
- Produced on the holding
- Common pasture
- Purchased
- Exchanged
- 4.1.4.15 What was the main type of animal housing system that was used for cattle on the holding during the reference period?
- Managed
- Semi managed
- Unmanaged

4.1.5 SHEEP

- 4.1.5.1 Were sheep raised on the holding during the reference period?
- Yes, in the reference period
- Yes, in the enumerator day
- No → 4.1.6.1

4.1.5.2 Provide the information of sheep raised on the holding.

S.N.	Sheep raised on the holding		Number of sheep as of enumerator day			Number of birth during reference period	Number of death animals during reference period		Number of animals purchased during reference period	Number of animals sold during reference period	Number of animals received in full subsidies or free of cost
			Total	Local	Improved		Death from natural causes	Death from disasters			
1	2		3	4	5	6	7	8	9	10	11
	Sheep	Less than 6 month	M lamb								
			F lamb								
		6 month or More than 6 month	Ram								
			Ewe								

1.5.3 Were any sheep slaughtered for meat on the holding during the reference period?

Yes

No → 4.1.5.7

4.1.5.4 Give the information about sheep slaughtered on the holding during the reference period.

Number of sheep slaughtered

Total carcass weight obtained (KG)

4.1.5.5 Report the Quantity of sheep meat used in the following ways during the reference period- slaughtered on the holding.

Quantity of meat for own use(KG)

Quantity of meat sold(KG)

4.1.5.6 If the quantity of meat sold is greater than 0 KG, price per KG (RS).

4.1.5.7 Report the Quantity of sheeps wool used in the following ways during the reference period- slaughtered on the holding.

Quantity of raw wool produced(KG)

Quantity of raw wool sold(KG)

Quantity of stored raw wool destroyed by disasters(KG)

4.1.5.8 If the quantity of wool sold is greater than 0 KG, price per KG (RS).

4.1.5.9 Did the holding have a marketing contract for the meat and wool production of sheep in the reference period?

Yes, for meat

Yes, for wool

No → 4.1.5.11

4.1.5.10 What percentage of meat and wool production was covered by marketing contract in the reference year? %

4.1.5.11 What was the major feeding practices for the sheep during the reference period?

- Only grazing
- Mainly straw/green grass /silage, with some feeding
- Mainly feeding, with some straw/green grass /silage
- Only feeding

4.1.5.12 What was the sources of feed used during the reference period?

- Produced on the holding
- Common pasture
- Purchased
- Exchanged

4.1.5.13 What was the main type of animal housing system that was used for small ruminants on the holding during the reference period?

- Open
- Traditional barns or buildings
- Shelter
- Other (specify)

4.1.6 GOATS

4.1.6.1 Were goat raised on the holding during the reference period?

- Yes, in the reference period
- Yes, in the enumerator day
- No → 4.1.7.1

4.1.6.2 Provide the information of goats raised on the holding.

S.N.	Goat raised on the holding		Number of goat as of enumerator day			Number of birth during reference period	Number of death animals during reference period		Number of animals purchased during reference period	Number of animals sold during reference period	Number of animals received in full subsidies or free of cost
			Total	Local	Improved		Death from natural causes	Death from disasters			
1	2		3	4	5	6	7	8	9	10	11
	Goat/ Mountain goat	Less than 6 month	M kid								
			F kid								
		6 month or more than 6 month	He goat								
			She goat								

4.1.6.3 Were any goat slaughtered for meat on the holding during the reference period?

- Yes
- No → 4.1.6.9

4.1.6.4 Give the information about goat slaughtered on the holding during the reference period.

- Number of goat slaughtered (KG)
- Total carcass weight obtained (KG)

4.1.6.5 Report the Quantity of goat meat used in the following ways during the reference period-
slaughtered on the holding.

- Quantity of meat for own use(KG)
- Quantity of meat sold(KG)
- Quantity of meat given to service or input providers(KG)
- Destroyed stored meat by disasters(KG)

4.1.6.6 If the quantity of meat sold is greater than 0 KG, price per KG (RS).

4.1.6.7 Did the holding have a marketing contract for the meat production of goat in the reference period?

- Yes
- No → 4.1.6.9

4.1.6.8 What percentage of meat production was covered by marketing contract in the reference year?

4.1.6.9 What was the major feeding practices for the goat during the reference period?

- Only grazing
- Mainly straw/green grass /silage, with some feeding
- Mainly feeding, with some straw/green grass /silage
- Only feeding

4.1.6.10 What was the sources of feed used during the reference period?

- Produced on the holding
- Common pasture
- Purchased
- Exchanged

4.1.6.11 What was the main type of animal housing system that was used for small ruminants on the holding during the reference period?

- Open
- Traditional barns or buildings
- Shelter
- Other (specify

4.1.6.12 Was separate type of animal housing system was used for male goat which were matured for reproduction?

- Yes
- No

4.1.7 PIGS

4.1.7.1 Were pig raised on the holding during the reference period?

- Yes, in the reference period
 Yes, in the enumerator day
 No → 4.2.1

4.1.7.2 Provide the information of pig raised on the holding.

S.N.	Pig raised on the holding		Number of pig as of enumerator day			Number of birth during reference period	Number of death animals during reference period		Number of animals purchased during reference period	Number of animals sold during reference period	Number of animals received in full subsidies or free of cost
			Total	Local	Improved		Death from natural causes	Death from disasters			
1	2		3	4	5	6	7	8	9	10	11
	Pig	Less than 6 month									
		6 month or more than 6 month									

4.1.7.3 Were any pig slaughtered for meat on the holding during the reference period?

- Yes
 No → 4.1.7.9

4.1.7.4 Give the information about pig slaughtered on the holding during the reference period.

- Number of pig slaughtered
- Total carcass weight obtained (KG)

4.1.7.5 Report the Quantity of pigs meat used in the following ways during the reference period-slaughtered on the holding.

- Quantity of meat for own use(KG)
- Quantity of meat sold(KG)
- Quantity of meat given to service or input providers(KG)
- Destroyed stored meat by disasters(KG)

4.1.7.6 If the quantity of meat sold is greater than 0 KG, price per KG (RS).

4.1.7.7 Did the holding have a marketing contract for the meat and wool production of pig in the reference period?

- Yes
 No → 4.1.7.9

4.1.7.8 What percentage of meat production was covered by marketing contract in the reference year? %

4.1.7.9 What was the major feeding practices for the pig during the reference period?

- Forages, including roughages
 Crops and agro-industrial by-products
 Swill and household wastes
 Mainly grazing, with some feeding

4.1.7.10 What was the sources of feed used during the reference period?

- Produced on the holding
- Common pasture
- Purchased
- Exchanged

4.1.7.11 What was the main type of animal housing system that was used for pig on the holding during the reference period?

- Managed
- Semi managed
- Unmanaged

4.2 POULTRY

4.2.1 Were poultry raised on the holding during the reference period?

- Yes, in the reference period
- Yes, in the enumerator day
- No → 4.3.1

4.2.2 Provide the information of poultry raised on the holding.

S.N.	Poultry raised on the holding	Number		Number of birth during reference period	Number of death animals during reference period		Number of animals purchased during reference period	Number of animals sold during reference period	Number of animals received in full subsidies or free of cost	Main type of housing system Deep litter 1 cage 2 open 3 others 4
		Enumerator day	Reference period		Death from natural causes	Death from disasters				
1	2	3	4	5	6	7	8	9	10	11
1	Broilers									
2	Layers									
3	Giriraj									
4	Indigenous Chicken (Local)									
5	Ducks									
6	Others									

4.2.3 Were any poultry slaughtered for meat on the holding during the reference period?

- Yes
- No → 4.2.7

4.2.4 Give the information about poultry slaughtered on the holding during the reference period.

- Number of poultry slaughtered
- Total carcass weight obtained (KG)

4.2.5 Report the Quantity of poultry meat used in the following ways during the reference period- slaughtered on the holding.

- Quantity of meat for own use(KG)

- Quantity of meat sold(KG)
- Quantity of meat given to service or input providers(KG)
- Destroyed stored meat by disasters(KG)

4.2.6 If the quantity of meat sold is greater than 0 KG, price per KG (RS).

4.2.7 Were holding raised egg laying poultry in the reference period?

- Yes
- No → 4.2.11

4.2.8 Provide the information of egg laying poultry raised on the holding.

S.N.	Buffalo raised on the holding	Number	Number of egg	Daily average number of days for laying egg	Daily average production
1	Layers				
2	Giriraj				
3	Indigenous Chicken				
4	Ducks				

4.2.9 Report the number of egg used in the following ways during the reference period on the holding.

- Number of sold egg
- Number of egg for hatching
- Number of egg for own use
- Number of loss Egg
- Other

4.2.10 If the number of egg sold is greater than 1, price per egg (RS).

4.2.11 Did the holding have a marketing contract for the meat and egg production of Buffalo in the reference period?

- Yes, for meat
- Yes, for egg
- No → 4.2.13

4.2.12 What percentage of meat and egg production was covered by marketing contract in the reference year? %

4.2.13 What was the major feeding practices for the poultry during the reference period?

- Only feeding
- Mainly feeding, with some grazing
- Mainly grazing, with some feeding
- Mainly grazing

4.2.14 What was the sources of feed used during the reference period?

- Produced on the holding
- Common pasture
- Purchased
- Exchanged

4.3 OTHER ANIMALS AND ANIMAL PRODUCTS

4.3.1 Were honeybees raised on the holding during the reference period?

- Yes
- No → 4.3.4

4.3.2 Provide the information about area used for honeybeesraising during the reference period.

B/R	K/A	D/P

4.3.3 Provide the inormation of honeybees raised on the holding.

S.N.	Types of honeybees	Number of beehives		Production of honey in the reference period(KG)	Production of honeycomb (KG)
		Enumerator day	Reference period		
1	2	3	4	5	6
1	Local				
2	Improved				

4.3.4 Were silkworm raised on the holding during reference period?

- Yes
- No → 4.3.6

4.3.5 Provide the information about area used for silkworm and cocoon production during the reference period.

B/R	K/A	D/P	Cocoon production (KG)	Total value(Rs)

4.3.6 Were mushroom cultivated on the holding during reference period?

- Yes
- No → 4.3.8

4.3.7 Provide the information about area mushroom used and production during the reference period.

B/R	K/A	D/P	Number of packet	Production (KG)	Total value (Rs)

4.3.8 Were flower cultivated on the holding during reference period?

- Yes
 No → 4.4.1

4.3.9 Provide the information about area used for floriculture and production during the reference period.

B/R	K/A	D/P	Total value(Rs)

4.4 FISHERY

4.4.1 Were fish raised on the holding during reference period?

- Yes
 No → 5.1.1

4.4.2 Number of fish pond in the reference period.

- Nursery raising
 Fishery for fish production

4.4.3 Area of fish pond.

B/R	K/A	D/P

4.4.4 Provide the information about fish production and its utilization in the reference period.

S.N.	Fishery species	Number of nursery	Fish production (KG)	Sold uantity (KG)	Sold price per KG(RS)	Own use for consumption (KG)	Production destroyed by disasters (KG)
1							
2							
3							

SECTION 5: ECONOMY DURING THE REFERENCE PERIOD

PART 5.1: OTHER ACTIVITIES OF THE HOLDING

5.1.1 Was the holding engaged in forestry activities?

- No
 Yes → 5.1.3

5.1.2 Provide the inormation of production of forestry on the holding.

S.N.	Forest production	Total production (KG)	Sold quantity (KG)	Total value(Rs)	Production destroyed by disasters (KG)
1	Timbers				
2	Energy wood				
3	Grass production				
4	Herbs production				
5	Others				

- 5.1.8 How often was this holding profitable?
- Unprofitable for all three years
 - Profitable in one out of the three years
 - Profitable in two out of the three years
 - Profitable in three out of the three years
 - Not applicable
- 5.1.9 Does the holding participate in a farmers' group / cooperative?
- Yes
 - No
- 5.1.10 Does the holding have a bank account?
- Yes
 - No
- 5.1.11 Did the holding received credit facility for agriculture during the reference period?
- Yes
 - No → 5.1.13
- 5.1.12 Did the holding received agriculture loan with interest subsidy during the reference period?
- Yes
 - No
- 5.1.13 Did the holding received subsidy/grant from government for agriculture activity during the reference period?
- Yes
 - No
- 5.1.14 Which of the following agriculture activities on the holding had been secured by insurance during the reference period?
- Crop production → 5.2.1
 - Livestock production → 5.2.1
 - Fish farming → 5.2.1
 - Other (specify) → 5.2.1
 - No
- 5.1.15 Why was the holding not secured by insurance during reference period?
- Not Access to insurance
 - Too expensive
 - Not necessary
 - No imbursement from insurance claim
 - Unknown

PART 5.2 SHOCKS

5.2.1 Did any severe shocks hit the holding during the reference period?

- Yes
- No → 5.2.7

5.2.2 Identify the three most severe shocks experienced.

Production shocks

- Drought
- Erratic rains
- Floods
- Hail stone
- Loss from wildlife
- Fire
- Sink
- Unusually low prices for agricultural output
- Storm
- Landslides
- Extreme temperatures (too hot or too cold)
- Unusually high level of crop diseases
- Unusually high level of livestock diseases
- Unusually high prices for agricultural inputs
- Theft of agricultural assets, outputs, money or valuables
- Other (specify

Household shocks

- Serious illness or accident or death of household member(s)
- Break-up of household
- Conflict or violence
- Reduction in the earnings of salaried household member(s) or loss of employment of salaried household member(s)
- Unusually high food prices
- Other (specify

5.2.3 What was the holding's main response to [SHOCK]?

- Sold land and/or buildings
- Sold crops and/or livestock
- Sold holding's other assets
- Found other work, not on the holding
- Received help from government
- Received help from NGOs or other organizations
- Reduced expenses for the holding
- Received help from relatives
- Reduced expenses for the household
- Received loan
- Received compensation from insurance

- Past savings
- None of the above

5.2.4 Has the holding fully recovered from the shocks?

- Yes
- No

5.2.5 Do you find that the holding is now better able to cope with the shocks?

- Yes
- No

5.2.6 What is your general perception of the level of severity of shocks compared to the past?

- Similar
- Greater
- Lower

5.2.7 List the agricultural machinery, equipment or assets damaged or destroyed by disasters in the reference period

S.N.	Equipment	1 Yes 2 No	Total number	Number destroyed by disasters
1	Iron plough			
2	Power Tiller			
3	Chaff cutter			
4	Milking machine			
5	Shallow Tube Well			
6	Deep Tube Well			
7	Rower Dhiki Pump			
8	Tractor			
9	Thresher			
10	Pumping set/ motor			
11	Animal Drawan Cart			
12	Sprayer			
13	Combined Harvester			
14	Other Equipments			

PART 6 WORKERS, DWELLING, ASSETS AND SERVICES USED BY THE HOLDING

6.1 Were workers hire for agriculture activities on the holding during reference period?

- Yes
 No → 6.3

6.2 Provide the information of workers used for agriculture activities on the holding during reference period?

S.N.	Types of worker	Permanent worker		Temporary worker		Exchange labor	
		Male	Female	Male	Female	Male	Female
1	Family member						
2	Manager/Administrators						
3	Skill workers						
4	Unskilled workers						
5	Total						

6.3 Did the holding experience a shortage of workers during the peak periods?

- Yes
 No → 6.5

6.4 What was the holding's main response for the shortage of workers during the peak periods?

- Rented on contract to other
 Only partial activities were carried on
 By increasing own engagement on the holding
 Prefer less labor required agriculture activities
 Using modern machine
 stopping the activities

6.5 Provide the information about the type of holder dwelling on the basis of Utilization and tenure.

S.N.	Types of utilization	Total number	Tenure		
			Own	on rented	others
1	For holder's shelter				
2	For livestock raising				
3	For poultry raising				
4	For crop storage				
5	For other activities				

6.6 Provide the information about the types outer wall of holder Dwelling.

- Mud bonded bricks /stones
 Cement bonded bricks

- Wood material
 - Bamboo material
 - Raw bricks
 - Galvanized sheet
 - Others
- 6.7 Provide the information about types of roof of holder dwelling.
- Galvanized sheet
 - Concrete Cement
 - Straw/ thatch
 - Tile
 - Wood material
 - Mud
 - Others
- 6.8 Provide the information about types of floor of holder dwelling.
- Mud
 - Wood/Bamboo material
 - Ceramic tile
 - Concrete Cement
 - Others
- 6.9 Is holding used different room for the kitchen?
- Yes
 - No
- 6.10 What is the main sources of water supply of the holding?
- Piped water (inside holder compund)
 - Piped water (outside holder compund)
 - Hand Pump
 - Covered well
 - Open well
 - Grounded water
 - River
 - Jar or Bottle
 - Others
- 6.11 what is the main fuel used for cooking of the holding?
- Fire wood
 - LPG
 - Electricity
 - Cow dung
 - Bio Gas
 - Kerosene
 - Others
- 6.12 Which of the following is used for light by the holding?
- Electricity
 - Kerosene

- Bio Gas
 - Solar
 - Others
- 6.13 Provide the information about types of toilet used by holding?
- With flush (public drainage)
 - With flush (safty tank)
 - Simple
 - No toilet
- 6.14 Report which items and services the household has. (Fill in all that apply)
- Cell phone
 - Landline telephone
 - Radio
 - Television
 - Vehicles
 - Internet
 - Computer
 - Agriculture Equipments
 - None of the above
- 6.15 Identify the types of information used on the holding during the reference period. (Fill in all that apply)
- Use of fertilizers and/or plant protection products
 - Prices of outputs
 - Crop health issues
 - Crop types to be produced
 - Weather forecasts affecting production
 - Livestock health issues
 - Livestock feed issues
 - Livestock breeding
 - Availability of inputs (including machinery and equipment)
 - Prices of inputs
 - Crop rotation and other sustainable agricultural practices
 - Other environmental information
 - Value add/ chain (storage, processing, packageing etc.)
 - No any information used → End of the core module
- 6.16 Identify the main source of information about information for the holding during the reference period.
- Government or extension service (Fill in all that apply)
 - Other individual farmer
 - Farmers' group or association
 - NGO or non-governmental project
 - Trader or market stakeholder
 - Aggravate
 - others(specify)

6.17 Identify the main method used for consulting the [INFORMATION SOURCE] for information about [INFORMATION]?

- Face-to-face discussions (Fill in all that apply)
- Phone calls
- Radio
- Television
- Internet or SMS
- Press or newspapers
- Agriculture Apps
- Other (specify

PILOT AGRICULTURE INTEGRATED SURVEY 2019, CHITWAN

PRODUCTION METHOD AND ENVIRONMENT MODULE

Part 1 ENERGY SOURCES DURING THE REFERENCE PERIOD

1.1 Identify the energy sources used by the holding for agricultural activity during the reference period. (Fill in all that apply)

- Electricity
- Petroleum fuels
- Biomass (wood, plant material, etc.)
- Biogas
- Solar energy
- Other energy or fuel (specify)
- None

PART 2 : SOIL MANAGEMENT AND IRRIGATION DURING THE REFERENCE PERIOD

2.1 SOIL MANAGEMENT DURING THE REFERENCE PERIOD

2.1.1 Calculated area of outdoor arable land covered by temporary crops

B/R	K/A	D/P

2.1.2 Report the areas under different tillage methods used on arable land covered by temporary crops.

S.N.	Tillage methods	B/R	K/A	D/P
1	Conventional tillage			
2	Mechanized tillage			
3	Zero-tillage (no tillage)			

2.1.3 Considering the longest cropping interval period, report the types of soil cover on the arable land covered by temporary crops.

S.N.	Types of soil cover	B/R	K/A	D/P
1	Bare soil			
2	Plant residues			
3	Next seasonal crop			

2.1.4 Was crop rotation being practised on the holding during reference period?

- Yes
- No → 2.1.6

2.1.5 If at least two crops rotation being practised, provide the area of land on which crops rotation was practiced?

B/R	K/A	D/P

2.1.6 Identify which of the following practices and features were used on the holding during the reference period.

- Following or shifting cultivation
- Vegetative strips
- Liming
- Terraces
- Rotational grazing
- No any practices

2.1.7 Were crop residues and/or other areas on the holding burned during the reference period?

- Yes
- No → 2.1.9

2.1.8 Identify the crops for which residues were burned on the holding during the reference period.

Name of crop	B/R	K/A	D/P

2.1.9 Was slash and burn used for clearing land during the reference period?

- Yes
- No

2.1.10 Was agriculture area is utilized as temporary fallow during the reference period?

- Yes
- No → 2.1.13

2.1.11 Was land temporarily fallow burned during the reference period?

- Yes
- No → 2.1.13

2.1.12 Of the total area of land temporary fallow, what was the share of land that was burned?

Percent

2.1.13 Was forest or other wooded land burned on the holding during the reference period?

- Yes
- No → 2.1.15

2.1.14 Of the total area of forest or other wooded land on the holding, what was the share of land that was burned?

Percent

2.1.15 Was unutilized agricultural area on the holding burned during the reference period?

- Yes
- No → 2.1.17

2.1.16 Of the total unutilized agricultural area on the holding, what was the share of land that was burned?

Percent

2.1.17 Did you use crop residues for feeding and/or bedding livestock during the reference period?

Yes

No

→ 2.1.19

2.1.18 Identify the crops for which residues were used for livestock feed and/or bedding on the holding during the reference period.

Crop residue	For feeding-1 For bedding-2 For both-3

2.1.19 Did the holding conduct a soil analysis/test during the reference period?

Yes

→ 2.1.21

No

2.1.20 Did the holding conduct a soil analysis/test in the past five years?

Yes

No

→ 2.1.22

2.1.21 After soil Analysis/ test, which of the following practices were conducted for improvement of soil as prescribed by technician?

Soil liming

Quality organic manure

balance chemical fertilizer

Green manure

others

No any practices

2.1.22 During heavy rain, do large volumes of water accumulate on the agricultural soil surface?

Yes

No

→ 2.1.24

2.1.23 When water accumulates on the soil surface and runs, how does it appear?

The water is clear

The water is not clear and/or is brown/muddy soil colored because it contains a lot of soil

Don't know

2.1.24 Have there been any of the following changes in the soil on the holding over the last five years?

Change in soil colour

Easyness to plough or work in soil

Difficulties to plough or work in soil

Easyness to emerge crops after planting

Difficulties to emerge crops after planting

Change in the amount of stones present in the soil

None of the above

2.1.25 Have you experienced any of the following soil degradation threats on your holding in last three years?

- No soil degradation
- Acidity of soil
- Imbalance use of chemical fertilizer
- Soil erosion (loss of topsoil through wind or water erosion)
- Waterlogging, including by floods
- Other (specify)
- None of the above

2.1.26 What is the total area of the holding affected by any of the threats identified above in last three years?

B/R	K/A	D/P

PART 2.2 IRRIGATION AND DRAINAGE DURING THE REFERENCE PERIOD

2.2.1 Did this agricultural holding use water to irrigate crops (over the last three years)?

- Yes → 2.2.3
- No, there is no irrigation available
- No, I can't afford irrigation
- No, I don't need irrigation

B/R	K/A	D/P

2.2.2 Area equipped for irrigation in working order

2.2.3 Area irrigated in reference period

2.2.4 Identify which methods of irrigation were used during the reference period.

- Surface irrigation
- Sprinkler irrigation/Spray Irrigation
- Drip irrigation
- Other (specify)

2.2.5 Identify which sources of irrigation water were used during the reference period. [Share %](#)

- On-farm ground water %
- On-farm surface water %
- Off-farm surface water (lakes, rivers, watercourses) %
- Dam/Reservoir (used to avoid flooding) %
- Tap water %
- Rain water %
- Rain water Harvesting %
- Other source (specify) %

- 2.2.6 Are you observing any reduction in water availability from well or other sources i.e. lake, canal and river (over the last three years)?
- No, water is always available in sufficient quantity
 - Yes, water level in my well(s) is progressively going down
 - Yes, water in river, lake or canal is getting scarce
 - I do not know
- 2.2.7 Are there organizations dealing with water allocation in the area where this holding is located?
- Yes, and they are working well
 - Yes, but they are not working well
 - No, there are none
 - No, I don't know
- 2.2.8 Report the total expenses /payment amount made for irrigation during the reference period. %
- 2.2.9 Were there areas on the holding where drains were present during the reference period?
- Yes, temporary unmanaged drain
 - Yes, managed drain
 - No

Part 3 FERTILIZERS AND PLANT PROTECTION

3.1 USE OF FERTILIZERS, PLANT PROTECTION AND RICE CULTIVATION DURING THE REFERENCE PERIOD

- 3.1.1 Do you know about the environmental risks associated with the use of synthetic and mineral fertilizers?
- Yes
 - No → 3.1.4
- 3.1.2 Did this agricultural holding take specific measures to mitigate the environmental risks associated with the use of synthetic and mineral fertilizers?
- Yes
 - No → 3.1.4
- 3.1.3 If so, which specific measures did the agricultural holding take or adopt? (Fill in all that apply)
- Follow protocols as per extension service or retail outlet directions or local regulations, not exceeding recommended doses
 - Use organic source of nutrients (including manure or composting residues) alone, or in combination with synthetic or mineral fertilizers
 - Use legumes as a cover crop, or component of a multi/crop or pasture system to reduce fertilizer inputs
 - By animal grazing
 - Distribute synthetic or mineral fertilizer application over the growing period
 - Consider soil type and climate in deciding fertilizer application doses and frequencies
 - Use soil sampling at least every 5 years
 - Other

- 3.1.4 Did this agricultural holding use any pesticides for crop or livestock production?
- Yes
- No → 3.1.8
- 3.1.5 What type of pesticides did this agricultural holding used?
- Green (Safe)
- Blue (Moderate)
- Yellow (Strong)
- Red (Extreme)
- 3.1.6 Did this agricultural holding take specific measures to protect people from health-related risks?
- Yes
- No
- 3.1.7 Which of the following measures did this agricultural holding adopt to protect people from health-related risks? (Fill in all that apply)
- Adherence to label directions for pesticide use
- Safe disposal of waste (cartons, bottles and bags)
- Use of safety gear during application
- 3.1.8 Did the Holding adopt any measures in relation to pest control and animal diseases with in the reference period?
- Yes, in case of plant
- Yes, in case of animal → 3.1.10
- No → 3.2.1
- 3.1.9 Which of the following measures did this agricultural holding adopt in relation to plant pest control? (Fill in all that apply)
- Adherence to label directions for pesticide application
- Adjustment of planting time
- Application of crop spacing
- Application of crop rotation
- Application of mixed cropping inter-cropping
- Perform biological pest control
- Use of disease resistant/tolerant cultivars
- Systematic removal of plant parts attacked by pests
- Maintenance and cleansing of spray equipment after use
- Plants quarantining
- 3.1.10 Which of the following measures did this agricultural holding adopt in relation to animal diseases control? (Fill in all that apply)
- Adherence to label directions for medicine application
- Perform biological medicine control
- Adopting pasture rotation to suppress livestock pest population
- Maintenance and cleansing of spray equipment after use
- animals quarantining
- Use of disease resistant/tolerant livestock breed

3.2 RICE CULTIVATION DURING THE REFERENCE PERIOD

- 3.2.1 Was rice cultivated on the holding during the reference period?
- Yes
 No
- 3.2.2 How many rice cultivating cycles were there during the reference period?
- 3.2.3 Identify the types of rice that were cultivated during the reference period. (Fill in all that apply)
- Fine
 Coarse rice
- 3.2.4 What was the length of the growing period for [RICE]?
- 3.2.5 Identify the irrigation methods and water regimes that were used during the growing period of [RICE].
- Irrigated, continuously flooded
 Irrigated, intermittently
 rain-fed
- 3.2.6 Identify the organic amendments added to the soil before the cultivation of rice during the reference period.
- Farmyard manure
 Compost
 Green manure
 Other (specify
 None
- 3.2.7 Identify the rice planting techniques used during the reference period.
- Transplanting
 Seed broadcasting
 Mixed
- 3.2.8 Report the average planting spacing for rice during the reference period
- Spacing between line(cm)
 spacing between plant(cm)

PART 4: LIVESTOCK PRODUCTION METHODS DURING THE REFERENCE PERIOD

4.1: ANIMAL BREEDING AND REPRODUCTION DURING THE REFERENCE PERIOD

- 4.1.1 Were veterinary services used on the holding during the reference period?
- Yes
 No → 4.1.5

- 4.1.2 Identify the types of veterinary services used by the holding for [LIVESTOCK] during the reference period. (Fill in all that apply)
- Reproduction
 - Curative → 4.1.5
 - preventive → 4.1.5
- 4.1.3 Identify the main animal reproduction technique for [livestock] used on the holding during the reference period.
- Natural mating
 - artificial mating
- 4.1.4 Identify the main provider of breeding services for the holding during the reference period.
- Private veterinarian
 - Public veterinarian
 - Self-provision
 - Village animal health workers
 - Other (specify
- 4.1.5 Were antibiotics used on livestock on the holding during the reference period?
- Yes
 - No
- 4.1.6 Were microbials used as growth promotor on livestock on the holding during the reference period?
- Yes
 - No
 - Unknown
- 4.1.7 Was traditional medicine applied on the livestock on the holding during the reference period?
- Yes
 - No → 4.2.1
- 4.1.8 Identify the objectives of the traditional medicine applied on [livestock] during the reference period. (Fill in all that apply)
- Reproduction
 - Curative
 - Preventative
 - Other (specify
 - Known

4.2: ANIMAL HOUSING DURING THE REFERENCE PERIOD

- 4.2.1 Was any of the animal housing used to house both humans and livestock?
- Yes
 - No
- 4.2.2 Identify the types of ventilation systems in the livestock building(s) on the holding during the reference period.
- Yes
 - No
- 4.2.3 Were there temperature controls in the buildings used to house livestock during the reference period?
- Yes
 - No

4.3: EQUIPMENT AND TRANSPORTATION OF ANIMALS DURING THE REFERENCE PERIOD

- 4.3.1 Was transhumance practised by the holding during the reference period?
- Yes
 No → 4.3.3
- 4.3.2 Identify the types of animals for which transhumance was practised during the reference period. (Fill in all that apply)
- Cattle
 Buffaloes
 Sheep
 Goats
- 4.3.3 Were live animals taken to pastures outside the holding during the reference period?
- Yes
 No
- 4.3.4 Were live animals transported from the holding to a market to sell them during the reference period?
- Yes
 No → 4.4.1
- 4.3.5 Identify the main transportation method used to transport livestock to a market during the reference period.
- By foot
 By road with motor véhicules
 Other (specify)

4.4: WATERING OF ANIMALS DURING THE REFERENCE PERIOD

- 4.4.1 Was the main source of water for watering livestock the same for all seasons during the reference period?
- Yes
 No → 4.4.3
- 4.4.2 Identify the main source of water used for watering livestock during the entire reference period.
- Borehole
 Well
 Dam or lake
 River, spring or stream
 Rainwater harvesting
 Tap water
 Other (specify)
- 4.4.3 Identify the main source of water used for watering livestock during the dry season.
- Borehole
 Well
 Dam or lake
 River, spring or stream
 Rainwater harvesting
 Tap water
 Other (specify)

- 4.4.4 Identify the main source of water used for watering livestock during the rainy season.
- Borehole
 - Well
 - Dam or lake
 - River, spring or stream
 - Rainwater harvesting
 - Tap water
 - Other (specify
- 4.4.5 Were problems encountered in watering livestock during the reference period?
- Yes
 - No → 4.5.1
- 4.4.6 Identify the months in which problems were encountered in watering livestock during the reference period. (Fill in all that apply)
- July
 - August
 - September
 - October
 - November
 - December
 - January
 - February
 - March
 - April
 - May
 - June
- 4.4.7 Identify the main problem encountered in watering livestock during problematic periods.
- Restricted access to water sources
 - Lack of water in usual water sources
 - Poor quality of usual water sources
 - Other
- 4.4.8 Identify the solution that was implemented to provide water to livestock during problematic periods. (Fill in all that apply)
- Use of another water source near the holding, for free
 - Use of another water source near the holding, with payment
 - Use of another water source far from the holding, for free
 - Use of another water source far from the holding, with payment
 - Other

4.5: MANURE MANAGEMENT DURING THE REFERENCE PERIOD

- 4.5.1 Identify the types of manure produced on the holding during the reference period. (Fill in all that apply)
- Farm yard manure
 - Composed manure
 - Bio gas slurry
 - Liquid manure
 - None → 5.1

- 4.5.2 Was manure produced on this holding and sold or given to others during the reference period?
 Yes
 No → 4.5.4
- 4.5.3 Report the quantity of (manure) that was produced on this holding and sold or given to others during the reference period
 Quantity of manure that was exchanged for goods and/or services kg
 Quantity of manure that was sold kg
 Quantity of manure that was given for free kg
- 4.5.4 Report Percentage of that [manure] was managed using each of the following manure management systems during the reference period.
 Traditional Percent
 Improved Percent
- 4.5.5 Was manure produced on the holding used for other purposes during the reference period?
 Yes
 No → 5.1
- 4.5.6 Report the quantity of manure produced on the holding that was used for the following purposes during the reference period.
 For fuel (including heating) (Fill in all that apply)
 For construction
 For feed

PART 5 AGROFORESTRY DURING THE REFERENCE PERIOD

- 5.1 Were there agroforestry practices on the holding during the reference period?
 Yes
 No → 6.1.1
- 5.2 Identify the types of agroforestry on the holding during the reference period. (Fill in all that apply)
 Agro-silvicultural area (crops and trees)
 Silvo-pastoral area (trees and livestock)
 Agro-sylvo-pastoral area (crops, trees and livestock)
- 5.3 Report then Area of agroforestry during the reference period?
- | B/R | K/A | D/P |
|-----|-----|-----|
| | | |
- 5.4 Identify the main type of trees in the agroforestry during the reference period. (Fill in all that apply)
 Fruits
 Daleghash
 Banpaidawar/ jadibuti
 Kathpaidawar
 others
- 5.5 Was forest or other wooded land created on the holding by planting trees during the reference period?
 Yes
 No → 6.1.1

5.6 Report the area planted with trees to create forest or other during the reference period.

B/R	K/A	D/P

PART 6: ACCESS TO AND USE OF INFORMATION SERVICES, INFRASTRUCTURE AND COMMUNAL RESOURCES DURING THE REFERENCE PERIOD

6.1: AGRICULTURAL INFORMATION DURING THE REFERENCE PERIOD

- 6.1.1 Were market conditions monitored before selling products from the holding during the reference period?
- Yes
- No
- 6.1.2 Report the number of visits made to the holding by agriculture technician during the reference period.
- 6.1.3 Was the visits made to the holding by agriculture technician sufficient during the reference period?
- Yes → 6.2.1
- No
- 6.1.4 Identify the main reason for not having more visits / sufficient visits to the holding by agriculture technician during the reference period.
- No need
- Too far away
- Service provider was too busy
- Service provider was not available
- Unwilling to visit
- Others

6.2: INFRASTRUCTURE (TRANSPORATION, COMMUNICATIONS AND ACCESS TO FACILITIES) DURING THE REFERENCE PERIOD

- 6.2.1 Identify the types of véhicules that were available on the holding during the reference period. (Fill in all that apply)
- véhicules for transporting livestock
- véhicules for transporting feed and crop products
- véhicules for transporting water or other liquids
- Refrigerated véhicules
- Other (specify
- None

6.2.2 Provide the information on access to a following facility, transportation facility and required time for the holding during reference period

S.N.	Types of facilities	Access		Types of vehicle	Time		Code	Vehicle
		Yes 1	No 2		Hours	Minutes		
1	Market						1	By foot
2	Public agriculture / livestock service offices						2	Cycle/ricksaw
3	Private veterinary clinic						3	Motorcycle
4	Aggravate/medicla shop						4	Wheel vehicle
5	Rural agriculture /livestock workers						5	Mixed
6	Food storage						6	Other, specify
7	Agriculture processing center							

6.2.3 Are you aware of any specific agricultural development projects being carried out in the holding's community or neighbourhood during the reference period?

- Yes
 No → 6.2.7

6.2.4 Did the holding participate in the development project(s)?

- Yes
 No → 6.2.6

6.2.5 What was the objective of development project(s) on which holding participate?

- Capacity building
 support in factors of production like seeds
 Mechanization and infrastructural development
 Subsidies/ grant
 Others (specify)

6.2.6 Identify the main reason why the holding did not participate in the development project(s).

- Not interested in participating
 Interested in participating, but there was no possibility to participate
 Lack of opportunity
 Other (specify)

6.2.7 Were there facilities for repairing agricultural machinery in the holding's neighbourhood during the reference period?

- Yes
 No → 6.3.1

6.2.8 Did the holding use the repair facilities?

- Yes → 6.3.1
 No

- 6.2.9 Identify the main reason why the holding did not use the repair facilities.
- Not necessary, because the relevant knowledge existed on the holding
 - Not necessary, because there was no machinery used or there was no machinery in need of repair
 - Too expensive
 - Other (specify

6.3: ACCESS TO COMMUNAL RESOURCES DURING THE REFERENCE PERIOD

- 6.3.1 Was there communal grazing land in the holding's neighbourhood during the reference period?
- Yes
 - No → 6.3.4
- 6.3.2 Did the holding use this communal grazing land during the reference period?
- Yes → 6.3.4
 - No
- 6.3.3 Identify the main reason for not using the communal grazing land during the reference period.
- Not applicable/no livestock on the holding
 - Not necessary because enough feed was available on the holding
 - No access granted
 - Problems with other users
 - Problems with the quality and quantity of pasture
 - Other
- 6.3.4 Was there communal forest or other wooded land in the holding's neighbourhood during the reference period?
- Yes
 - No → 6.3.7
- 6.3.5 Did the holding use this communal forest or other wooded land during the reference period?
- Yes → 6.3.7
 - No
- 6.3.6 Identify the main reason for not using the communal forest or other wooded land during the reference period.
- Not necessary because the forest land on the holding was sufficient for the holding's activities
 - Too expensive
 - No access granted
 - Problems with other users
 - Problems with the quality and quantity of forest or other wooded land
 - Other

- 6.3.7 Were there communal irrigation facilities in working order in the holding's neighbourhood during the reference period?
- Yes
- No → 7.1
- 6.3.8 Did the holding use these communal irrigation facilities during the reference period?
- Yes → 7.1
- No
- 6.3.9 Identify the main reason for not using the communal irrigation facilities during the reference period.
- Not necessary because the forest land on the holding was sufficient for the holding's activities
- Too expensive
- No access granted
- Problems with other users
- Problems with the quality and quantity of forest or other wooded land
- Other

PART 7: ADAPTATION TO CLIMATE CHANGE AND MITIGATION STRATEGIES DURING THE REFERENCE PERIOD

- 7.1 Did natural extreme events or disasters hit the holding during the reference period?
- Yes, economic impact → 7.3
- Yes, physical impact → 7.4
- Yes, human impact
- No → 7.5
- 7.2 Report the number of human impacts on the holding for the natural extreme events or disasters that hit the holding during the reference period.
- People killed
- People injured
- People rendered homeless
- People evacuated
- Other (specify)
- No impact
- | Women | Men |
|-------|-----|
| | |
| | |
| | |
| | |
| | |
- 7.3 Indicate the type of economic impacts incurred by the holding for the natural extreme events or disasters that hit the holding during the reference period.
- Loss of revenue
- Loss due to disruption of production
- Loss of storage food
- Other economic impacts (specify)
- No impact

- 7.4 Indicate physical impacts incurred on the holding for the natural extreme events or disasters that hit the holding during the reference period.
- Area lost
 - Crop losses
 - Livestock losses
 - Aquaculture losses
 - Biomass losses
 - Building damages or losses
 - Other physical losses (specify)
 - No impact
- 7.5 Do you know about climate change?
- Yes
 - No → 8.1
- 7.6 Identify the practices of the holding during the reference period to adapt to climate change. (Fill in all that apply)
- Multicropping
 - Shifting cultivation
 - Use of traditional agricultural heritage practices and knowledge
 - Use of traditional crop and animal varieties
 - Use of seeds adapted to local conditions and stresses
 - Use of new practices or technologies
 - Change in varieties
 - Other (specify)
 - None of the above

PART 8: WASTE MANAGEMENT DURING THE REFERENCE PERIOD

- 8.1 Identify the types of waste generated by the holding during the reference period.
- Non-functioning vehicles
 - Empty packaging of plant protection products (PPPs)
 - Empty packaging of fertilizer products
 - Empty packaging of diesel, gasoline or other petroleum products
 - Empty packaging of seeds
 - Used plastic film
 - Ropes and nets (used for forage conditioning or viticulture)
 - Plant protection products (PPPs) that are no longer usable
 - Veterinary waste
 - Fruit-soaking fungicidal liquids
 - Other non-hazardous organic waste
 - Other non-hazardous inorganic waste
 - Other hazardous waste
 - None of the above

8.2 Identify the treatment used by the holding for the waste generated on the holding during the reference period.

- Waste taken away from the holding by a professional
- Waste kept on the holding, treated by burning
- Waste kept on the holding, treated by burying
- Waste kept on the holding, other treatment (specify
- Waste kept on the holding, no treatment

8.3 Identify the methods used during the reference period to manage the wastewater generated by the holding.

- Discharged to a constructed retention or holding pond
- Discharged to a septic or sewer system
- Applied to agricultural land
- Included in the liquid manure system
- Not managed, removed through natural drainage
- Other (specify)



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