

3. BACKGROUND

Livestock play a fundamental role in Afghan agriculture, but existing information on the numbers of animals in the country and their distribution predates many years of warfare and a devastating four year long drought. Field reports indicated that animal numbers have fallen sharply since the earlier surveys, but there are no statistics to substantiate the claim. Farmers are aware of the need for vaccination against animal disease but animal numbers are required for planning veterinary campaigns. Reliable statistics as well as comprehensive production system information are needed to guide the design and implementation of livestock development programs carried out in the rebuilding of the Afghan agricultural sector.

During 2002, the Italian Government agreed to contribute funds for the agricultural sub-sectors of the Intermediate and Transitional Assistance for the Afghan people (ITAP), including the provision of funds for a National Livestock Census.

An interim report with the core of the census data was published in 2003. This final report includes the expanded analysis and summary of four separate surveys: Levels 1 and 2 of the livestock census (Level 2 included a detailed production system appraisal), the Women Livestock Owner Survey, and the Karakul Survey.



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4. ACTIVITIES

4.1 ORGANISATION AND PLANNING

Work in Afghanistan started in September 2002. An International Livestock Consultant developed the census and data analysis design and provided operational guidelines and training manuals. The Census Manager planned and supervised the administration of the field work. Census design and methodology are described in full detail in Section 6. Briefly, the census was conducted on two levels of intensity. Level 1 constituted the complete enumeration of all livestock numbers, including limited information on livestock demography and recent changes in livestock wealth. These data were collected at the community level, with a community typically representing a mosque assembly within a village or town. A much more detailed Level 2 census was administered by Supervisors to individual households in randomly selected districts and villages. Level 2 covered detailed information on animal husbandry, feed management and markets. In addition to the census, two separate surveys were administered. One survey specifically addressed livestock production issues from the perspective of women. This survey was administered by female enumerators. The second additional survey specifically addressed Karakul sheep production as a livestock activity of historic significance and current potential for valued-added production.

Work plans were drawn up by early October, with the intention of completing data collection before livestock moved out of their winter quarters with the onset of spring weather. The start of work was divided so that provinces with predominantly mountainous areas would start earlier than lower altitude Provinces where winter would be less of a hindrance to movement of data collectors.

Two levels of management were established. The Census Manager and an Assistant Manager based in Kabul were responsible for nation-wide management of activities. Supervisors, covering 2-3 Provinces provide the second management level, with Data Collectors (Field Staff) based in each district are responsible for visiting all villages in their District, and collecting information on animal numbers.

A national data base kept by the Afghanistan Information Management System (AIMS) under the UN provided a list of Provinces, districts and villages. Afghanistan comprised 32 Provinces, 329 Districts and 30 172 villages. Provinces varied from 4 Districts (Sari Pul) to 22 (Nangarhar). Rural districts varied from 4 villages (Andkhoy in Faryab Province) to 620 (Daykundi in Uruzgan Province). Based on population estimates from AIMS, and assuming seven persons per family, village size varied from six families per village in Wormamay district (Paktika Province) to 3 016 in Andkhoy district (Faryab Province). However, much of the village data was derived from information compiled in the 1970s. This material was taken as the planning base for the census.

A complication arose from variations in the number of districts between the pre-2000 situation recognised by AIMS as the authorised situation and the number of districts recognised officially by the Ministry of the Interior. A further complication arose from the administrative situation on the ground as a result of the creation of new districts by Provincial administrations, which have not been officially recognised by Central Government.

It was decided that the locally accepted name for a district would be used in the Livestock Census - based on the answers from respondents. Names were taken and recorded in Dari or Pashtu. The survey forms and training manuals were prepared in English and translated into two local languages, Dari and Pashtu. Training for Supervisors was held in English, translated into Dari by an interpreter. Field staff training, provided by the Supervisors was held in Dari or Pashtu.

It was estimated that each pre-2000 district would require an average of 4.5 man months (mm) of work to collect the Level 1 census data, giving a national total of 1500 mm. Less time would be required for smaller districts or districts with easier travel conditions; larger or more difficult districts would require more time. It was also recognised that flexibility was required, and a time plan conceived in Kabul could only be taken as guidance. Supervisors were allowed, within limits, to vary

the manpower allowances to suit conditions on the ground. Considerable responsibility therefore rested on Supervisors and their judgement of the situation.

Orders were placed for vehicles and computer equipment during October. Computer equipment arrived during January. Registration of the first vehicle occurred during February, and the second vehicle was registered during March.

4.2 RECRUITMENT AND TRAINING

Twenty five supervisors were selected and trained by the Census Manager and his Assistant. Eleven persons came from the Ministry of Agriculture and Animal Husbandry (MAAH), ten from previous FAO projects, one from the University of Kabul, one from an NGO and two from the private sector. Supervisor training, lasting three days, covered the purpose of the survey, the use of Level 1 and Level 2 forms, and organisation and administration of Supervisor duties. During the course, the Level 1 and Level 2 forms were field-tested by the Supervisors in a nearby village. Lessons learnt during field testing were incorporated into the training. Supervisors also received guidance on organisation and implementation of the training courses to be held in the Provinces for the Field staff.

Pairs of Supervisors were then allocated to cover 2-3 Provinces, given a list of the suggested man-months needed for data collection for each district, and an upper limit of the total man-months available for the group of Provinces under their control. They were given authority to vary the man-months used for any one district, as long as the total man-months remained within the limit for their group of Provinces.

The country was divided into higher and lower altitude Provinces. Supervisors in higher altitude locations started work recruitment and training of Field staff at the end of October. Selection and training in lower altitude areas started in late November.

In the Provinces the Supervisors visited Province Ministries to introduce themselves and inform the authorities of their activities. In some locations it was possible to have broadcast interviews on local radio stations to publicise the livestock census. In these areas, villages then knew of the census before the enumerators arrived.

Data collectors were recruited by the Supervisors at District level, from local people with knowledge of the area and of the livestock sector. These predominantly were Veterinary staff, originally part of the Ministry of Agriculture, but recently in a private sector environment. Other suitable local persons were recruited in Districts where no veterinary field unit existed. Training courses were organised by the Supervisors at suitable locations around their group of Provinces, with around 30 potential field staff attending each course. Attendance at a training course, and a demonstrable understanding of the proposed activities and duties was a requirement before contracts were offered to the field staff.

4.3 DATA COLLECTION

Field data was largely numeric. A record field remained blank where the respondents were unable to answer the question. All names and dates were recorded in local script, Dari or Pashtu. It was decided to record "perceived" names of the District in which the community understands itself to be located.

Information was collected at the village level. However, it was believed that information on total animal numbers would be more reliable from groups of a limited number of respondents, and that it would be difficult to obtain reliable data from a single meeting in a large village. Therefore, during the planning period the collection unit was defined as a community group within a village. Community groups were based on mosque assemblies. A small village might have a single assembly, whereas a large village would have several.

Enumerators made two visits to each mosque assembly. On the first visit the reason for the census was explained to prevent any misconception over its potential tax raising implications, and an explanation was given of the data required. The Shura (council of elders) was requested to organise collection of information from village families by the return date of the enumerator. A second visit was made a few days later and information collected from a representative group from the mosque assembly.

In addition, data was collected from all urban centres. Kabul city was treated as a separate Unit from Kabul Province for data collection. One supervisor and 30 data collectors were involved in the census of Kabul City, taking one month to complete. Enumerators visited Local Area representatives, who in turn contacted street representatives to organise data collection. Kabul City data collectors were recruited from the Departments of Animal Science and Veterinary Science in the University of Kabul. Field staff in the Provinces were derived predominantly from the staff of Veterinary Field Units (VFU). The majority of VFUs are independent entities, although some are still formally in contract with NGOs. FAO received regular information about approximately 230 VFU, but in some regions of Afghanistan these linkages were lacking. Letters of Agreement were prepared with two NGOs, covering areas in the west, west-central and southwest regions of Afghanistan to assist with identification and selection of suitable Field staff in those areas where they have links to VFUs, and where FAO was not represented. Visits were made by census management and supervisors to the field to oversee the work, and ensure data quality.

Data collection was completed in all Provinces by the end of March, with the exception of Ghor Province. During the winter and early spring the road access to Ghor is virtually impossible because of snow and mud. The main access road was only declared open by the Government on 13 April. The survey was undertaken in Ghor using large numbers of data collectors and completed by the end of April. Insecurity prevented data collection in only Barmal District of Paktika Province, adjacent to the Pakistan border.

4.4 DATA ENTRY AND CHECKING

Ten data entry personnel were recruited in early February for training by the Survey Design and Analysis consultant, who visited Kabul again during mid February. Data were entered onto computer by two teams of five staff, on a tailored form to simplify transfer of information from paper to computer. Data were entered in duplicate, once by each team. Each team worked on data from one Province each at a time, with single districts being allocated to a single operator. Data entry was completed by early June.

Duplicate entry by different teams simplified the task of checking the accuracy of entry, by crosschecking the two files relating to a single district. Differences were identified and then corrected by reference to the original data form received from the field. Data checking and correction of the basic data set was completed by the end of July.

In total more than 53 000 records for Level 1 were entered by each team, each record containing 73 fields. Level 2 data comprised 1 285 data records each containing 207 fields. The Women's survey produced 2508 records with 170 data fields each. The Karakul survey material consisted of 133 records with 63 data fields each.

4.5 DATA ANALYSIS

Data were analysed using standard software for descriptive statistics and the statistical analysis package SAS for analytical statistics.

For total livestock numbers, records without information about number of families were included. For all computed variables on family basis, all records with missing information about number of families within the community for which the data were enumerated were omitted. Due to many missing value cells for small stock numbers, it was decided on an individual record basis whether the missing entry

was truly a missing value, or conversely, indicated zero. The criterion used was overall number of animals in the corresponding species. Where this decision was not possible, the record was eliminated.

For all computed variables involving animal ratios, records containing zeroes for the numerator were eliminated. For records with missing values for the numerator variable, it was decided on an individual record basis if the missing entry denoted zero, or was truly a missing value.

The issues of data consistency encountered in this survey are reflective of general problems faced by surveys and are further addressed in the Methods section. In the Results section we report summaries based on Provinces and/or Agro-ecological zones. Detailed tables with all district level data are listed in the Annex sections.



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