

3. METHODOLOGY

The methodology for this survey was first agreed in March 1996 after the completion of an initial survey by questionnaire of the proposed sample farms. The methodology is described in more detail in the Annual Report for WUFMAS published in July 1997. There are minor changes to the methodology of data collection as a result of the experience in 1996 and the opinions of the participants. The second edition of the Guidance Notes (on how to fill in the record sheets), the revised codebook and the revised record sheets for 1997 are shown in Appendix 1.

3.1 Selection of Sample Farms

The 36 farms in the five republics selected in 1996 for monitoring reflected the distribution of irrigated land. They were chosen in 18 neighbouring pairs in order to test for geographical variation and representativeness. Privatisation of farmland had progressed to variable degrees in the republics, so that in order to minimise the complexity of the survey it was decided to select only farms that retained the original kolkhoz structure even though ownership and management had changed.

Table 3.1 Location and Elevation of Sample Farms

Farm no.	Farm Name	Republic	Oblast	Rayon	Deg N	Deg E	Elevation (mamsl)
Years 1996 and 1997							
1	Aksharma	Kazakhstan	Kzyl Orda	Terenozek	44°52'	64°16'	118
2	Akumskiy	Kazakhstan	Kzyl Orda	Djalagash	44°55'	64°42'	117
3	Zhambul	Kazakhstan	South Kazakhstan	Makhtaaral	40°52'	68°34'	257
4	Makhtaaral	Kazakhstan	South Kazakhstan	Makhtaaral	40°49'	68°32'	257
7	Rasviet	Kyrgyzstan	Tchu	Sokuluk	42°52'	74°28'	730
8	Expt farm	Kyrgyzstan	Tchu	Sokuluk	42°47'	74°33'	958
9	Sadikov	Kyrgyzstan	Osh	Karasu	40°33'	72°49'	954
10	Cotton Expt	Kyrgyzstan	Osh	Karasu	40°38'	72°54'	873
14	1st May	Tadjikistan	Leninabad	Zafarabad	40°17'	70°23'	300
37	Dusti	Tadjikistan	Leninabad	Zafarabad	40°15'	70°12'	425
17	Teze Durmus	Turkmenistan	Mary	Bayram	37°34'	62°11'	240
18	Murgap	Turkmenistan	Mary	Bayram	37°33'	62°11'	240
21	Berdeyev	Uzbekistan	Surkhandariya	Sherabad	37°38'	66°59'	390
22	Talashkan	Uzbekistan	Surkhandariya	Sherabad	37°38'	66°56'	390
23	G. Guliyam	Uzbekistan	Syrdariya	Sharaf-Rashidov	40°23'	68°23'	280
24	Timur Malik	Uzbekistan	Syrdariya	Sharaf-Rashidov	40°23'	68°23'	280
25	A. Navoi	Uzbekistan	Khorezm	Khanka	41°3'	60°38'	90
26	Pakhtakor	Uzbekistan	Khorezm	Urgench	41°28'	60°4'	90
27	Khalkabad	Uzbekistan	Karakalpakistan	Kegeli	42°42'	59°44'	80
28	Shortanbay	Uzbekistan	Karakalpakistan	Nukus	42°37'	59°32'	75
35	Bukhara	Uzbekistan	Bukhara	Kagan	39°44'	64°29'	230
36	Gulistan	Uzbekistan	Bukhara	Kagan	39°35'	64°3'	230
Year 1996 only							
5	Uchkun	Kyrgyzstan	Naryn	Naryn	41°15'	75°25'	1785
6	Kulanak	Kyrgyzstan	Naryn	Naryn	41°2'	75°3'	1820
11	Lenina	Tadjikistan	Khatlon	Kolkhozobadsky	37°35'	62°38'	400
12	Komsomol	Tadjikistan	Khatlon	Hovaling	37°57'	68°47'	450
13	Yusifi Radjab	Tadjikistan	RRP	Lenin	38°34'	68°45'	800
15	Razmetova	Turkmenistan	Dashkhovuz	Dashkhovuz	41°54'	59°58'	83
16	Geokchaga	Turkmenistan	Dashkhovuz	Gubadag	42°01'	59°52'	76
19	Djeykhum	Turkmenistan	Lebap	Chardjev	39°04'	63°38'	191
20	Turkmenistan	Turkmenistan	Lebap	Chardjev	39°04'	63°38'	190
29	Khoshvaktov	Uzbekistan	Kashkadarya	Karshi	38°57'	65°33'	350
30	Beruni	Uzbekistan	Kashkadarya	Kasan	39°04'	65°3'	325
31	Uzbekistan	Uzbekistan	Syrdariya	Saikhunabad	40°38'	68°47'	267
32	Shooroziak	Uzbekistan	Syrdariya	Saikhunabad	40°39'	68°44'	266
33	Navoi	Uzbekistan	Ferghana	Kuva	40°34'	72°03'	480
34	Yakkatut	Uzbekistan	Ferghana	Tashlak	40°29'	71°53'	460

The selection and number of sample farms was reviewed at the start of 1997 due to a budgetary constraint. Two alternative scenarios were costed, in which the number of farms was halved by (a) choosing one member of each pair, and (b) halving the number of pairs.

Alternative (b) reduced the staffing level, and hence the cost, more than alternative (a) but at the expense of geographical information. The 1996 review provided evidence that variation between farms reflected differences between republics in fiscal policies, markets and managerial style rather more than agro-ecology. Farms in the Kyrgyzstan mountain and the Aral Sea littoral zones presented extremes of agro-ecology and exceptions to this generalisation. The security situation in Tadjikistan disrupted management of the programme and recovery of data to some extent.

For these reasons, it was decided to retain farms in pairs and reduce the number of pairs, and again to ignore the need to monitor "privatised" farms. The farm selected in each republic as the Pilot Farm was retained together with its neighbour as a control. A second tranche of farms was retained as a basis for future expansion of the Pilot Farm Programme. Four farms in Kazakhstan, four of the six in Kyrgyzstan, and ten out of 16 farms in Uzbekistan were retained to ensure as much ecological coverage as possible. A new farm was chosen in Kanibadam, Tadjikistan to make a pair, but the others and four farms in Turkmenistan were discontinued. The 22 farms retained, with their location details, are shown in Table 3.1.

3.2 Training Seminars and Guidance Notes

All members of the National Working Groups and field supervisors were called to a training seminar in Tashkent in February 1997. The agenda included

- restatement of the objectives of WUFMAS,
- review of data collected in 1996,
- problems encountered by field staff and by database staff,
- distribution of and instruction on the use of the field equipment delivered in September 1996, and
- introduction of the revised guidance notes, codebook and record sheets.

It provided the opportunity for the RWG to listen to the views of the field staff, and these were taken into account in revising the procedures before the end of the seminar.

The second edition of the Guidance Notes is presented in Appendix 1. There are few changes to the first edition and these are shown in italics.

3.3 Codebook

Some enumerators had trouble in 1996 in identifying the correct codes, particularly for agricultural machinery and crops, and followed the instructions of using their own customised code with a description. When these new codes were investigated, the majority were found to be unnecessary so that only a very few new codes needed to be added to the original codebook for 1997, as indicated in Appendix 1.

3.4 Record Sheets

From the experience in 1996, a few changes were considered necessary to most of the record sheets. These were issued with new numbers, starting at Form No. 23: the original no. 1 becomes no. 23 in 1997, and so on. The revised forms are shown in Appendix 1.

3.5 Soil Survey and Sampling

The soil survey in the sample fields was completed in the spring of 1997, and during the year, the soil samples returned to the SANIIRI laboratory and a second batch of samples returned by the enumerators, were analysed.