



**Rebuilding Agricultural Markets Program, Afghanistan
Funded by the U.S. Agency for International Development**

RAMP Impact Assessment # 1

**Estimating the Change in Agriculture Production in RAMP
Primary Provinces, a Final Report**

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Summary of Major Findings

USAID's RAMP project is implementing a multi-year agricultural rehabilitation program. Interventions are focused in three areas: agricultural technology, infrastructure improvements, and rural finance. The status of agriculture in five provinces is assessed using a Participatory Rural Assessment (PRA) methodology.

The second annual PRA of crop data was carried out in December, 2004. Results are compared with data from 2003. Major findings include:

- Output value declined in 2004 by \$50.8M (\$412.3M from \$463.1M) due changes in area cropped (- 11%), yield (+57 to - 31%), output (+20 to -44%), and intensity (-10%). These are due to environmental, institutional, and market failures. Had this not occurred a foregone income of \$14.9M in 2004 could have been realized.
- Specific gains by crop category or region were made
 - Value of vegetables and edible oils increased by over 40% each - vegetables due to increased productivity and edible oils because of increased area cropped
 - Total employment has increased by 5% - 38,744 mandays
 - Helmand output increased 20%
 - Vegetable output increased by 13%
 - Vegetable yields increased by 57%
 - Area cropped under fruits has increased 18% (Ghazni 79% increase)
- Specific losses by crop category or region were made
 - Value from fruits and nuts has fallen by up to 30% because of the fall in production
 - Value from cereals fell by 16%, though maize made a net gain of 7%
 - Value from cotton fell by 23%
 - Area cropped under six high-value vegetables has fallen 49% though Kunduz registered a 6% increase
 - Area cropped under nuts decreased by 16% though Nangarhar registered an 11-fold increase
 - Output in Parwan and Ghazni declined 30 and 44% respectively
 - Cereal output declined by 20%, fruits and nuts by 31%
- Other notable changes include
 - Proportion of vegetables sold was consistently high (from 59% in Ghazni to a high of 75% in Nangarhar and Helmand)
 - Marketed surplus of cereals has fallen in 2004 to a high of 66% in Kunduz and a low of 5% in Ghazni
 - Subsistence crops account for 74% of cropped area; Cereals account for 62% of cropped area. Not surprisingly there has been no major shift in cropping patterns away from subsistence crops.
 - Falling food subsistence may thwart hopes of achieving food security and increasing incomes
 - Farmers noted that reduced output and income was due to drought, frost, disease, and lack of adequate seed and fertilizer.

1. Background

It is characteristic of most aid agencies in Afghanistan to disregard assessing the impacts of their interventions. Burdened by the need to demonstrate “efficiency” in disbursing resources and achieve quick impacts within a given timeframe, few aid agencies are able to undertake even ex-ante impact assessments. This has resulted in a major knowledge gap about production and economic change at large.

The RAMP Management Plan stipulates that the program will increase the “marketable value of agricultural commodities” by US\$250M over the life of the project. There are three major sources that contribute to this target: the value change from agriculture output, the value gains made from marketing, and the value added gain from processing primary products. In 2003, a PRA survey was launched in all the five primary provinces - Kunduz, Parwan, Ghazni, Nangarhar and Helmand - to compile a baseline data on agriculture activities as a prelude to initiating the RAMP interventions. The survey was implemented in 125 villages. The 2004 PRA is a follow up to the baseline survey. It compares the progress made in 2003/4 with the 2002/3 cropping season in terms of increasing the marketable output of agriculture commodities. The study, though restricted to RAMP priority provinces, provides a good deal of information on the performance of the agriculture sector that would inform policy and practice.

Different types of projects are typically funded by RAMP and implemented by implementing partners, including infrastructure (roads, irrigation), market centers, agriculture technology, and rural finance. The projects reflect the program’s strategic funding priorities. A total of 32 irrigation, 38 road projects and 170 market centers were funded since 2003. In order to disseminate best practices, over 600 demonstration farms are established in six provinces. In terms of distribution, 26 of the irrigation projects, 22 of the roads, 130 of the market centers and half of the demonstration farms are located in the primary provinces. Some of the projects have wider coverage beyond the five primary provinces. There are 40 market centers constructed outside of the 5 primary provinces. The locust and sun pest control project covers the most affected provinces in the North – Badakhashan, Baghlan, Faryab and Jawazjan. The micro-finance, livestock and poultry projects are nationwide in their coverage. There are also some infrastructure projects implemented outside of the primary provinces. Most of the projects are integral pieces of the program objectives—for example, irrigation canals on which output growth is contingent—while others, like market centers, have more secondary purposes.

Projects were implemented on an on-going basis and some did not even start until mid 2004 to have a measurable impact on the annual agriculture production. There is also some concentration of projects and activities in certain provinces and even within a province in a handful of districts. Of the irrigation projects, there are 10 each in Nangarhar and Parwan and 2 each in Kunduz and Helmand. The road projects are also unevenly distributed with Kunduz and Nangarhar each accounting for 10, Parwan 3, and Ghazni 2. The central province of Ghazni and Helmand in the South have the least number of projects. In some case, the size of the investment in a province is too small to definitely link changes in the local economy to project activities, but in several cases it is possible to identify local economic changes that correspond to project impacts. Detailed project specific impact studies will soon be initiated to measure the actual impacts of specific projects in locations where projects are implemented. The findings from this PRA track and measure “emerging” changes in terms of increasing agriculture output at a somewhat macro level encompassing provinces.

2. Survey Design and Methodology

2.1 Sampling Frame

As this survey is a follow on study, effort was made to sample the same 125 villages that were covered in the baseline survey. Due to logistic constraints and security concerns, however, 11 villages were replaced with new villages (5 from Ghazni and the remaining 7 from the 4 provinces). This was a practical necessity. However, since the difference between villages is rather small in terms of resource acquisition the result may not be that different had we sampled the same 125 villages. The 125 villages surveyed were located on a GIS map (five villages per district) and the survey was implemented between November and December 2004.

	Population (000)	Number of Districts	PRA Population (% of Total)
Kunduz	820	7	87.4
Parwan	726	12	67.4
Ghazni	931	16	77.0
Nangarhar	1,089	20	40.1
Helmand	745	13	57.2
Total	4,311	68	64.6

Source: Population data from CSO, Afghanistan 2003

The sample villages were selected because they assured reasonable representation of the districts in the respective provinces. Data given below depict that the sample villages and districts are of high population density and of major agriculture potential in the provinces. There are 68 districts in the five provinces, of which the PRA sampled 25 districts (about 37% coverage). Of the total 4.3M people residing in the five provinces, about 65% reside in the target 25 districts, with some variation between the provinces. The highest coverage was in Kunduz with 87%; the lowest was in Nangarhar with 40%. Overall, however, 65% of the population in the five provinces was covered by the PRA survey.

The initial selection of survey villages in 2003 was done before many activities were underway. By in large survey villages are located close to activity locations with a few notable exceptions. Estimated distance between survey villages and projects sites suggests that most projects sites located within a 5 km radius of survey villages. It is therefore possible that the projects have impacted agriculture production at the survey villages. Maps are attached in the annex depicting the location of projects and average distance of the villages from project sites.

2.2 Assessment Tool

This survey aims at collecting information from beneficiary representatives regarding the magnitude of local impacts from interventions – how the investments helped farmers to increase agricultural output and hence the proportion of marketable surplus. Farmers and local Ministry of Agriculture and Food (MOAF) agriculture teams were a valuable source of information to valuing the ongoing changes. After all, impact studies need to take the perceptions of those who are to benefit from the program into account. There are many techniques of participatory methods that can be used to gauge the perspective of beneficiaries. Examples include RRA, PRA (rapid rural assessment, participatory rural assessment), and participatory action research are some examples. The impact survey applied the PRA technique. Participatory Rural Assessment, which relies on participants' knowledge of the conditions surrounding the program, is particularly useful and cost effective for selecting ex-ante impact indicators with explicit illustrations of qualitative and

quantitative standards. Moreover, PRA as a methodology is flexible and tailored to the needs of the assessment and can be carried out quickly using rapid techniques.

Two complementary approaches were used to gather information: qualitative and quantitative means. Using a panel discussion of key informants, quantitative data gathering formed the major tool of data gathering. Qualitative data gathering was used to unearth new connections, develop more complex formulations with a deeper understanding of the material. In addition to the panel discussions with key informants, site visits were made by the survey teams to validate certain information. Supplementary information provided during the discussion was also recorded by the team (e.g. why yield level was low or high). This information proved invaluable in validating certain data. Numbers need to be interpreted and qualitative information helps to decide which aspects of the assembled information should be scaled up or down or set aside completely – like “outliers”.

However, participatory impact assessment has limits, as statements of small groups cannot easily be extrapolated and the perceptions of different groups may be in conflict with the community. The lack of comparison group and the lack of statistical robustness also make it difficult to generalize to a larger community. The validity and reliability of PRA data are highly dependent on the methodological skill, sensitivity and training of the enumerators. Expert (desk) analysis and interpretation of the information are useful to validate the responses and reach a balanced judgment. To the extent possible, these “corrective measures” were implemented.

To complement the field assessment tool, official UN materials and satellite imagery data and secondary materials and field reports were extensively used.

2.3 Planning and Preparation

This is the first study specifically designed to assess changes in agriculture sector activities in the 5 primary provinces. The approach used builds upon the experience gained during the baseline survey of 2002/3. The schedule below demonstrates the length of time taken from planning, field work up to data analysis and report drafting. Some of these tasks were done intermittently; the questionnaires were revised a few times to ensure that they incorporate indicators appropriate for a multi-regional environment. Questionnaires were developed in consultation with the RAMP agriculture specialists. A set of critical indicators, some already used to collect the baseline data, were chosen to measure changes. To use the popular code, the indicators were SMART – Simple, Measurable, Achievable, Realistic, Timely.

Time frame of the study	
October 2004	Methodology development
November 2004	Mapping survey villages, questionnaire preparation
November 2004	Enumerator recruitment, training, and field testing of questionnaire
December 2004	Questionnaire refinement, field work
January 2005	Database design, data entry
February 2005	Data cleaning, standardizing tabular formatting
February 2005	Data Analysis and preliminary draft report circulation
March 2005	Revision and final report submission

A one day workshop was held by the monitoring and evaluation (M&E) staff for the survey team in which the objectives of the survey, the methodology and the survey design were explained. In addition, field testing of the questionnaires was done in two villages around Kabul. The main purpose was to correctly grasp the PRA process, understand critical meanings of certain terminologies, delimit the time horizon for the impact assessment and learn from the experience and refine both the methodology and the questionnaire. As expected a number of important issues and questions were raised at the PRA field testing that were later discussed in a debriefing meeting

with all the survey team. The questionnaires were then refined by incorporating the feedback from the field testing and translated to Dari for application.

The number of participants to take part in the PRA discussion was set at 8 persons per village, depending on the size of the village population. These comprised of a mihrab (water manager), head of the village shoura, an elderly person chosen by the community for his knowledge of the local economy, 4 farmers (a mixture of various classes of farmers), a local grain trader and/or transporter. In most cases, however, more than fifteen persons per village, the majority of whom were farmers have taken part in the discussions and this greatly helped to cross-check and validate the responses.

The survey was conducted by a survey team of agriculturists, constituted from the MOAF in Kabul and from the district offices. Totally, 20 teams (each team comprising of three persons per village) were constituted, and the survey was implemented in two provinces at a time. Two supervisors were also deployed to facilitate the survey (one per province), to schedule the field work teams, to liaise with local authorities and to ensure proper implementation of the survey. Staff from the M&E unit participated in the field work at various stages of the survey and provided guidance and assistance to the survey team.

The first draft report was circulated to key program and management staff for comments and feedback. One important concern raised by the agriculture technical team was that the weather, disease, etc adjustment factors derived from the Food and Agriculture Organization (FAO) crop assessment and applied to adjust for “externalities” were probably high, because the loss was not as high as that reported by FAO. Following this advice, the adjustment coefficients were reworked and the analysis revised downward. Some of the analytical methods were also revised and the impact values adjusted likewise.

2.4 Report Structure

The report is presented for the sample districts and provinces. Both adjusted and unadjusted data (described later) are aggregated at appropriate levels and relevant comparisons are drawn there from. Crops were aggregated into appropriate categories (cereals, vegetables, legumes, etc) and appropriate variances were measured for each province. The results are presented in tabular format and in simple percentages. Short narratives, supplemented with appendices, are used to support tabular information. Comparison with the base year was made both in real terms and by working out proportionate changes in area, yield and output. Significant changes may not occur in a single year, but nevertheless the data provide some insights as to whether the situation is changing as predicted. Area and output indicators were also compared in such a way that geographic variations in performance can be identified and measured. The output values were also compared with national figures.

3. A Conceptual Framework

Evaluations are either ex-ante or ex-post. Ex-post evaluations recapitulate and judge interventions often after some years has lapsed since implementation, and the objective is to measure a range of direct and indirect benefits as well as unintended impacts. A mid-term evaluation may conveniently be described as “impact”, and it has at least two major objectives:

First, to increase the accountability of the program implementation to the donor and the recipient communities; and

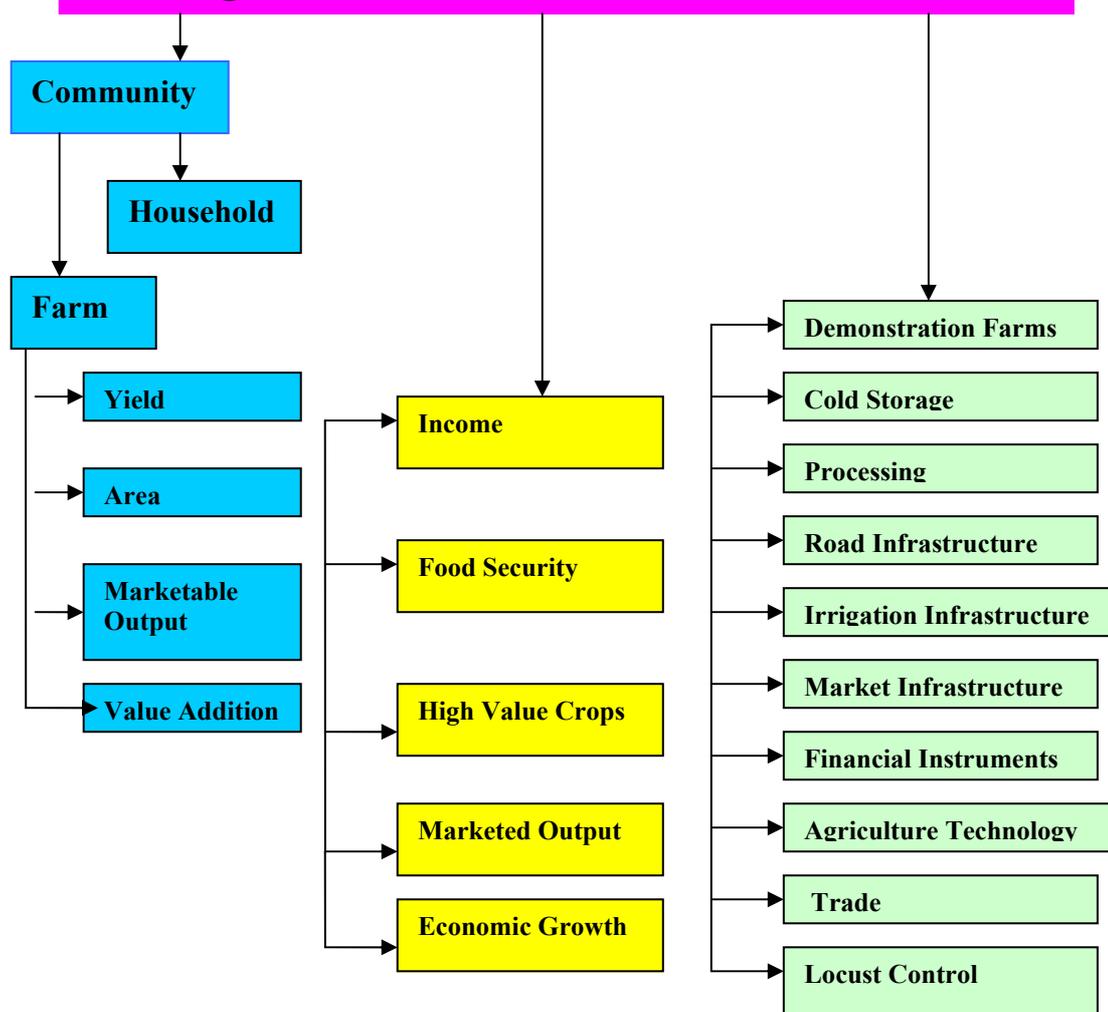
Second, to improve the implementation of the program by contributing to informed planning and decision-making in terms of resource allocation to effectively realize program objectives.

The PRA survey was thus launched to assess the initial results of the interventions, the relevance of the targets and the extent to which they have been attained.

Figure 1 models the conceptual basis for assessing the impact of RAMP activities. The block on the right side of the figure depicts the various intervention instruments impacting change on yield, area, surplus marketing, etc which in turn induce increased income, food security, shift to high-value crops and economic growth at large (impact explanatory variables) that cumulatively contribute to meeting RAMP strategic objectives. For this survey, however, these variables are too broad and too many. Thus, consistent with the program objective, the variable chosen to measure impact is the change in the “marketable output”. The study measures output and compares this with the strategic objectives of RAMP. It measures only the current annual impact of the program through output indicators, and this is measured both in terms of gross value and net incremental gain over the baseline.

An attempt is also made to measure the proportion of output marketed as an indicator of the commercialization of the Afghan farm economy. An estimate was also made to determine the net impacts from the observed (gross) changes by controlling for other (exogenous) factors affecting the local economy during the period under consideration (This does not establish causality, or how the implementation of projects actually interacted with other local economic activities and economic development efforts to affect the results for local communities. This is typically accomplished through case studies of specific projects, scheduled for later date). Though not central to this study, the output indicators are compared with national figures based on crop specific outputs and broader measures of economic diversification and farm income growth.

Figure 1. MODELLING RAMP IMPACT



There are a range of indirect impacts that naturally would flow from the RAMP program, such as distribution and transportation for suppliers of goods and services, as well as induced impacts, like jobs - often referred to as “multiplier effects.” These additional effects represent net gains in local economic activity.

The PRA study is not assessing the multitude of outcomes; it is also not attempting to measure the wider economic impacts in the local communities. It is not measuring the impacts on the national economy and the improvement in food security of communities. Some of these variables can be approximated from the data but they don’t constitute the central objective of the survey. The focus is on the direct effects – the net change in the marketable output and other related variables of progress.

Finally on attribution. It is part of the purpose of impact assessment to attribute change to intervention but almost impossible to prove it. The greater difficulties are due to the increasing influence of external factors. Standard approaches to project are to assess “before and “after’ as well as “with-and-without” intervention. To some extent the PRA surveys measure these two scenarios. The 2003 data provides the benchmark (before) and the 2004 data the progress (after), but the data doesn’t establish correlations between projects and outputs. Moreover, it does not attribute realized outputs to RAMP alone; there are also other aid organizations involved in agriculture development. RAMP impacts can only be captured through project-specific impact studies within defined geographic areas and there are a few planned for the coming months.

4. Agriculture Potential

There is a great deal of heterogeneity between the provinces, both in terms of resources, size and other relevant parameters. Satellite imagery data obtained from the British Embassy, Kabul (ref: Cranfield University), shows that the land potentially available for cultivation (i.e. arable land) in Afghanistan amounts to 31M jeribs (1 jerib = one-fifth of a hectare), of which 42% is irrigated and the remaining 58% rainfed. About a third of the total arable land is irrigated wheat and poppy is grown on 76% of the irrigated wheat land in Nangarhar, 40% in Helmand. The other three provinces have a combined share of 1.1% poppy area planted on irrigated wheat land.¹

The total agriculture area in the five provinces was 4.4M jeribs in 1993; in 2004, it was 4.1M jeribs, about 13% of the total for Afghanistan. In 1993, 85% of the agriculture area was irrigated and 15% rainfed. The ratio for 2004 is not clear, but if we take the area under irrigated wheat (1.3M jeribs in 2004) as an indication of the progress made, about 35% of the area cropped in 1993 was irrigated in 2004. Inter-province comparisons show that area cultivated in Ghazni in 2004 was just over half of the 2003 level, and in Helmand about 4% less, probably due to the vagaries of the weather that swept across the country last year. The other three provinces have exceeded the area cropped in 2004; the highest gain was made in Parwan (33%) and Kunduz (14%).

Table 1. Land Use Statistics

	Agriculture Area 1993 (000 Jbs)		In Percent 1993		Total 1993 (000Jbs)	Total 2004 (000Jbs)	Percentage Change 2004/2003
	Irrigated	Rainfed	Irrigated	Rainfed			
Kunduz	739.6	522.1	17.0%	12.0%	1,261	1,435	13.8
Parwan	248.7	0.038	5.7%	0.0%	249	332	33.3
Ghazni	1,050.5	55.6	24.1%	1.3%	1,107	590	-46.7
Nangarhar	500.1	0.0	11.5%	0.0%	500	543	8.6
Helmand	1,156.1	81.5	26.6%	1.9%	1,238	1,190	-3.9
Total	3,694.9	659.1	84.9%	15.1%	4,354.1	4,090.5	93.9
Percentage of Afghanistan					14.1%	13.2%	

Source: Data for 1993 from DAI, Earth Satellite Corporation 1993, Irrigation and Water Resources Annex 4. Data for 2004 from the British Embassy, Kabul, re: Cranfield University Satellite, 2004.

Overall, in a space of 11 years (1993-2004) about 94% of the total area which was cultivated in 1993 was brought in to use; about 7% of the area cultivated in 1993 remains uncultivated in 2004, and suggests that once the remaining 7% of the area is brought into use, future agriculture progress in these provinces lies on intensification of production through the application of improved technology rather than area expansion as such. This is precisely why RAMP's interventions in rehabilitating infrastructure become so important.

In theory, two or three crops per year can be grown in most areas, particularly in the warmer climate of Nangarhar and Helmand, but actual cropping intensities – the number of crops per unit land cultivated per year – are in most cases two, primarily because of bio-physical factors. Irrigation permits the cultivation of an extra crop where none was planted before, or allow a switch from relatively low yielding un-irrigated crops like barley to higher-yielding irrigated ones. In the spring season, roughly from April to June, the main crops are rice and early maturing vegetables. In the summer season, beginning in July and ending with the autumn harvest in October, maize, beans, peanuts and summer vegetables like onions, tomatoes,

¹ Poppy area from the United Nations Office on Drugs and Crime (2004) "Afghanistan Opium Survey 2004". Irrigated area is from FAO (2004) "FAO/WFP Crop Assessment Mission to Afghanistan, Special Report"

eggplants, pumpkins, garlic and okra are grown; and in the winter season, roughly from November to March, during which a variety of crops is grown, including wheat, potatoes and winter vegetables like cauliflower, spinach, carrots, lettuce. Melons and water-melons are intercropped late in the spring with sesame, rapeseed, wheat and barley.

5. Method of Assessment

5.1 Aggregation and Extrapolation

The scope of data gathering and analysis was to some extent determined by the information needs of the key stakeholders (the donor, program management) and a realistic assessment of constraints (time, resources, skills, etc). The raw data were entered in spreadsheets and cleaned for anomalies with the help of supervisors and RAMP specialists. The data were then aggregated and further adjusted for externalities. The data construction followed the same format used in 2003. Crops were aggregated into appropriate categories (cereals, vegetables, legumes, etc) and appropriate variances were measured for each province. The basic assumptions and extrapolation techniques were retained in which the village level data were analyzed and aggregated to derive the cumulative total of the sample villages and from there extrapolated to district level and further to the provincial level. In order to make a comparison between the two years, the 2003 district level data was also aggregated and extrapolated to the province level and the analysis was performed for both adjusted and unadjusted data. There was a three stage extrapolation, as follows:

Extrapolation to district: two steps:

First, aggregate the values for 5 sample villages by simply summing the values for area and output and computing average yields and prices.

Second, extrapolation to district:

$$\frac{\text{District agriculture area}}{\text{Total cultivated area for sample villages}} \times \text{Area under each crop for sample villages}$$

Extrapolation to province: two steps

First, extrapolation to total of 5 districts by simply aggregating the values from the five sample districts:

Area, production, production value = sum of the five districts

$$\text{Yield} = \frac{\text{production}}{\text{area}}$$

$$\text{Average price} = \frac{\text{production value}}{\text{total output}}$$

Marketed output = weighted average of the five districts

$$\text{Marketed value} = \frac{\text{proportion marketed} \times \text{output value}}{100}$$

Second, extrapolation to province:

$$\frac{\text{Total provincial agriculture area}}{\text{Total cultivated area for 5 districts}} \times \text{Area under each crop for 5 districts}$$

A hierarchy of extrapolation was followed. Weighted average prices were used at district and provincial levels. To estimate the total output value, the following formula has been applied:

$$\text{TPV} = \sum_{i=1}^n Q_i P_i^*$$

Further, per jerib output value from crops was computed as follows:

$$PJV = \frac{\sum_{i=1}^n Q_i P_i^*}{\sum_{i=1}^n A_i}$$

Where Q_i = production of the i th crop

P_i^* = annual average price (in Afs) of the i th crop

A_i = total area in jeribs

TPV = total output value

PJV = output value per jerib

On the basis of the cost of production study (see RAMP working document # 1) and information compiled from RAMP specialists, the norms of labor requirement (in mandays per jerib) were developed for each crop to estimate the employment generated by agriculture.

$$(1) \quad TLIP = \sum_{i=1}^n A_i M_i$$

$$(2) \quad FHS = \frac{\sum_{i=1}^n TLIP^*}{TLIP} \times \sum_{i=1}^n AE$$

Where: TLIP = total labor input in mandays

FHS = farm households

TLIP* = crop specific labor input in mandays

A_i = area under i^{th} crop in jeribs

M_i = labor input in standardized mandays in the i^{th} crop per jerib

AE = adult equivalents

Equation one estimates total labor input for each crop and for the aggregate in standardized mandays. The second equation estimates the farm households involved in growing the particular crop. To derive this, the total labor input for each crop was divided by the total labor input for the aggregate and multiplied by the total adult equivalent for the province. The total population was divided by 7, assuming that the average family size is 7 persons, to derive "adult equivalents". No weighting was done for work capacity between the age and sex groups in the family. The number of working days in the agricultural season is assumed to be 150 days.

5.2 Adjustments

The year 2003/4 cropping season has been poor in terms of rainfall and input markets. The FAO report suggests that 2002/3 was an exceptionally good year to farmers.² Rainfall was well distributed throughout the cropping season, but in 2004 precipitation was significantly below the long-term average. Agriculture production fell between 40 and 70% over the previous year, depending on location. The cereal sector collapsed from low and variable rainfall, further compounding the effects of the drought.

² FAO/WFP Crop and Food Supply Assessment Mission to Afghanistan, Special Report, 8 September 2004.

There was also excessive frost, particularly in Ghazni and Parwan, causing a massive fall in fruit and nut output. Fruit and nut production was badly hit by frost at critical plant flowering period. On average 60 percent of the orchards were affected to varying degree between plant species and location. In Parwan and other provinces in the East Central region, 80% of the apples and vines and nearly 50% of the almonds were damaged. Ghazni too has experienced at least 80% fall in fresh fruit output. The PRA survey shows that some villages in Ghazni did not have any fruit output whatsoever. The other three provinces have also experienced crop failure of varying magnitude as revealed by the PRA survey which was corroborated with FAO report.

Fruit and vegetable production also sustained an outbreak of disease, probably worsened by the seasonal condition. Certain high-valued vegetables like chili and garlic were not harvested in Parwan, Ghazni and Nangarhar, and output of other vegetables like okra, eggplant, potato and tomato was down measurably in many of the villages surveyed. These are traditionally the most important high-valued vegetables that generate good return per unit land planted.

The FAO report also suggests that agricultural production has fallen for yet other reasons:

- Substitution of wheat by poppy due to low wheat prices last year
- Some land left fallow, farmers' deferring wheat in favor of rice
- Untested and unsuitable wheat seeds, apparently distributed by aid organizations
- Adulterated fertilizers with reduced nutrient content in the market
- Farm labor shortages during harvest seasons due to labor migrating to work on the construction sector in the urban areas
- Shortage of agriculture machinery during the cereal planting season
- Outbreak of sun pest and weeds in some parts of the North

The FAO crop assessment report has been questioned by some specialists. While acknowledging the effect of various external factors on agriculture production, specialists doubt if output has indeed fallen by the same magnitude as indicated in the report. In the light of this criticism, the adjustment factors constructed for 'externalities-induced' loss fall at the lower band of the FAO estimate.

The other adjustment was made for data anomaly. The PRA data, both for 2003 and 2004, either underestimate or overestimate area and yield when compared with data from FAO and other sources (e.g. Central Statistics Office). To correct this various adjustments factors were constructed with the help of local experts. The first was to scale up the area under those crops that have lost ground in relation to the 2003 PRA data. Simultaneously, where the PRA data showed an overestimate, this has been scaled down and standardized with data from FAO. This adjustment has changed the actual district area which was used in the 2003 extrapolation. In effect the adjustment made for the sample districts has also changed the acreage for the province. The adjustment factors were worked out as follows:

- 1) The PRA data overestimated wheat area, on average by almost 50% and underestimated yield by 14% compared to the FAO data, but varying between provinces. As a consequence of this, wheat area generated by the 2003 and 2004 PRA and extrapolated to provincial level was substituted by data from FAO. The yield level was also adjusted following the FAO report. Rainfed yield and average prices were taken from the PRA surveys. Rainfed area which was cultivated in 2003 but not in 2004 was regarded as income foregone and adjusted accordingly. Output was valued using the weighted average prices for the respective years.
- 2) The extrapolated PRA data for barley and maize area were in most cases higher than the regional totals. For example, the total area under barley in the North-East region comprising of Kunduz, was 385,000 jeribs in 2003, and maize 120,000 jeribs. The corresponding values from the PRA for Kunduz province alone were, respectively, 10,248 jeribs for barley (26%) and 67,773

jeribs (56%) for maize. Kunduz is by far the bread basket of the region, and its share in the regional total should exceed that of Takhar, Baghlan and Badakhshan - the other three provinces in the region. The PRA data for maize also has some anomaly that needed adjustment when compared with the FAO data. For example, the total for maize in the Central region comprising of Parwan, Kapisa, Logar, Wardak and Kabul was 115,000 jeribs and in the South-West comprising of Helmand, Kandahar, Zabul, Nimroz and Uruzgon was 50,000 jeribs in 2003. The extrapolated PRA provincial values were 21,725 jeribs for Parwan and 166,792 jeribs for Helmand. In other words, Helmand alone accounted nearly 4 times more than the regional area, while Parwan has a share of just under 20%. Such a huge discrepancy between the PRA and the FAO data may probably be due to enumerator error and/or that the sample villages were few (this is especially true for Nangarhar and Helmand where there is significant deviation in the data) and probably not representative of the province as such. Adjustments were therefore necessary, and based on information obtained from RAMP agriculture specialists (in the absence of provincial level data), the following coefficients were constructed to estimate the area under crops in each province.

	Adjustment Coefficients Based on FAO 2003 Data			
	2003		2004	
	Barley	Maize	Barley	Maize
Kunduz	40%	35%	35%	14%
Parwan	20%	35%	35%	14%
Ghazni	30%	PRA	35%	25%
Nangarhar	0%	50%	PRA	14%
Helmand	0%	45%	PRA	14%

PRA means PRA data used without adjustment

The adjustments were made in two steps. First, the share of the province in the regional area was estimated. For example, of the 385,000 jeribs under barley in the North-East, 40% was in Kunduz; in the Central region, 20% was in Parwan, and so on. Likewise, 35% of the regional area under maize was in Kunduz; 50% of the regional maize area in the East was in Nangarhar, and 45% was in Helmand in the South-West. The provincial area under barley and maize was adjusted by applying these regional coefficients.

Then adjustments were made for “externalities”. The 2004 data was adjusted downward, again following the FAO report. The FAO crop assessment stipulates that barley area has fallen by 35% and maize by 14%. Thus, area under barley in Kunduz, Parwan and Ghazni was adjusted downward by 35%. Since there was no barley planted in Nangarhar and Helmand in 2003, the 2004 data was taken from the PRA but adjusted accordingly. The same procedure was applied to adjust the area under maize.

Yield values were all taken from FAO and adjusted downward by 35%, except for maize in Ghazni which was adjusted downward by 25%. This standardized the data sets and provided consistency to the methodology but also a realistic figure from which output changes could be estimated.

Rice area and yield was adjusted upward following the FAO estimate. Area according to FAO increased by 28% in 2004 due to the shift from cultivation of wheat and other summer crops to paddy rice, especially in the North-East. The FAO report gives conflicting estimates for yield. The 2003 report gives an average yield of 600kg/jerib for 2003; the 2004 report by contrast gives 401kg/jerib for the same year, and 336kg/jerib for the 2004 harvest. Either way, the average yield has fallen by some margin, and the adjustment was made by applying the latter two yield values which, according to local expert opinion (e.g. Dr Samin, personal communication 2005), are reasonable.

There is a dearth of information on millet. The PRA survey shows that there was no millet planted in Kunduz and Helmand in 2003 and 2004. A small area, about 17 jeribs of land was planted in Ghazni but it has failed. Nangarhar and Parwan were the principal provinces growing millet which is largely used for feed. In the absence of even a farm level data indicating productivity, no adjustment was attempted to the PRA.

There is also very little reliable information on cotton. The PRA data from Kunduz, Helmand and Nangarhar suggests that cotton production has fallen due to the decline in area by 12% and yield by 32%. This probably reflects the monopoly nature of the trade in which all the gins are government owned and producer prices are not competitive. Thus the 2003 and 2004 PRA data were retained without adjustments.

Poppy is excluded from the analysis but the basic data after adjustment, following the UNODC reports, is presented to demonstrate its significance in farm income.

According to FAO, vegetable production in 2004 was down over the previous year due to lack of sufficient and timely rains as well as certain diseases (like melon flies). The PRA data indicates that area declined by 28% but yield increased by 57% which led to a net output gain of 13%. It is not clear if these values are too high, simply because there is no farm level survey to compare with. Thus the PRA data were retained without adjustment.

No adjustment was made on the PRA legume area and yield values either, except on area for Ghazni which was adjusted upward by 35%. Overall, area in 2004 was down by 4%, yield by 6% and aggregate output by 9%. This was within an acceptable range.

For edible oils, the PRA data were retained, except for area in Kunduz which had to be substantially scaled down. The 2004 data on area was almost 5 times more than the 2003 estimate, and this was deemed unrealistic and had to be adjusted down by 50%.

The adjustments for fruits and nuts were rather complicated, because the FAO estimated loss due to weather, disease, etc was not for area or yield but for output (production). Hence, the 2003 PRA data was retained as the baseline and the 2004 output was adjusted downward by applying the following coefficients constructed by consulting specialists in the RAMP program.

2004 Fruit and Nut Output Adjustment Coefficients, Based on FAO (in Percent)

	Fruit	Nut
Kunduz	15	20
Parwan	30	30
Ghazni	45	45
Nangarhar	10	5
Helmand	10	5

There are significant differences between the provinces in the production of fruits and nuts. The traditional nuts of almonds and walnuts are not so common in Nangarhar and Helmand, while fruit dominate the farming environment in Parwan and Ghazni, and according to the PRA survey, these two provinces in particular have sustained heavy losses of fruit production. On average, both nut and fruit output was adjusted by an average of 31% to reflect the due to bad weather, disease, etc. No adjustment was made on area, but an indication of this can be gauged from the unadjusted data (see section 6.1 on area change). The average yield is worked out by simply dividing output by area.

A final approach adjusts the output values upward. If the conditions in agriculture were as favorable as in 2003, agriculture output in 2004 would not only have matched the previous year but increased by a certain margin. If past experience is of any guide then output in 2004 should have increased by at least the long-term average. This average was constructed from a World Bank study³ and the potential marketable output value foregone in 2004 was estimated for the various crops.

5.3 Decomposition

The estimated output fall are conditioned by a range of environmental and market failures. However, the level of output fall could not be explained by trend as this is annual data. To understand the sources and measure the magnitude of the fall, a simple decomposition of the output difference has been made. There are two components to the output difference – area and yield – and the respective ratios are derived following these steps:

- A. Area 2004-2003 x base year yield = net output loss due to area
 Yield 2004-2003 x base year area = net output loss due to yield
 Total output loss = sum of net area and yield output loss
- B. Net output loss due to area divided by total output loss x 100 = ratio of loss due to area
 Net output loss due to yield divided by total output loss x 100 = ratio of loss due to yield
- C. Ratio of area lost divided by the total output value lost = area induced net output value lost
 Ratio of yield lost divided by the total output value lost = yield induced net output value lost

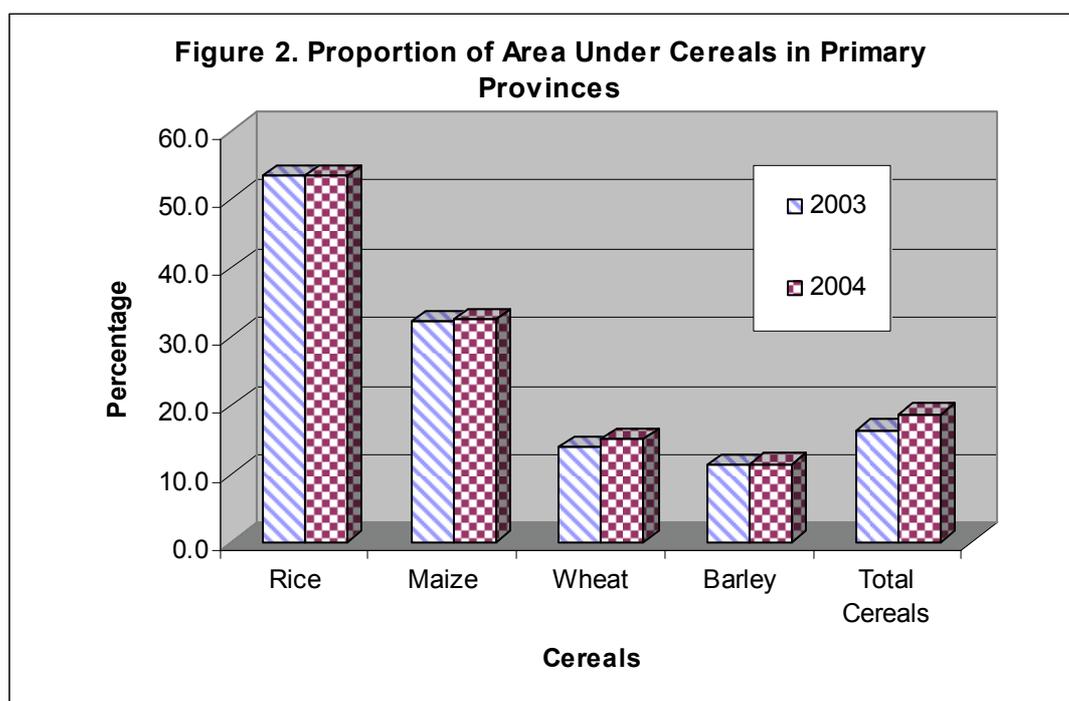
The method is rather crude, but nonetheless provides a reasonable approximation of the source and magnitude of the fall. The area component measures the net area foregone and the yield component is normally associated with technology (low or poor quality seed and fertilizer, inadequate irrigation), and environmental factors (poor rainfall, frost, etc).

6. Major Findings

Despite data anomalies, the survey tells a plausible story about the agriculture sector in 2004. The results are aggregated by province for individual crops and crop categories (cereals, cash crops, vegetables, etc) and presented in a series of tables for the unadjusted data (Tables 2a to 2e). The data adjusted for externalities and the estimated changes in area, output and value are given in Tables 3 to 10 for each crop. Village and district level data are available in electronic files. Farmers' perceptions about agricultural activities in their villages are summarized and annexed to the report. Unless otherwise specified the analysis and interpretation of the results is based on the adjusted data. The major results are summarized as follows:

6.1 Area Change: The land dedicated to various crop categories in 2003 and 2004 is presented in Table 11 for the adjusted data. By way of comparison, cereals in the five provinces were planted on 16% of the total cereal cropped area of Afghanistan in 2003. This ratio increased to 19% in 2004. Of the major cereals, rice accounted for 53% of the area cropped with rice in Afghanistan in both 2003 and 2004. Maize area was also the same, about 32% of the total for Afghanistan, while wheat increased its share from 14% to 15%. Barley maintained its share of 11%. Figure 2 also depicts these values.

³ Guimbert, Stephane "Structure and Performance of the Afghan Economy", Technical Annex 1 to Chapter 1, World Bank (not dated).



Inter-year comparison shows that the gross cropped area fell from 3.75M jeribs in 2003 to 3.33M jeribs in 2004, down by 11.2%. The cereal sector lost its share by 10%, despite a 27.6% rise in the area planted with rice. The other cereals have lost ground, some significantly: wheat area fell by 16%, barley by 34.5% and maize by 12.4%, while area under millet collapsed by 95%. This is consistent with the FAO estimate in which farmers in the major rice growing areas, including in Kunduz in the North, reduced the area planted with wheat and maize in response to last year's fall in prices and increased the acreage in rice. The area planted with cotton fell by 12% while that of vegetables and legumes declined by 28 and 4% respectively. The growth in area was much stronger in the edible oil category, about 14% increase. Fruit and nut area remained unchanged.

Summary Table: Percentage Area Change by Crop, 2004/2003

Barley	-34.5	Vegetables	-28.1
Maize	-12.4	Legumes	-3.8
Millet	-94.9	Edible Oils	14.0
Rice	27.6	Fruits	0
Wheat	-16.0	Nuts	0
Total cereal	10.1	Cotton	-12.0

Derived from Table 11

A breakdown of the total cropped area by province shows a huge fall in Parwan and Ghazni. In real terms this loss was 220,000 jeribs. Kunduz and Helmand, by contrast, sustained relatively low loss, about 6% each.

Summary Table: Percentage Area Change by Province, 2004/2003

	2004	2003	Percentage Difference
Kunduz	1,478.8	1,565.0	-6%
Parwan	301.7	415.8	-27%
Ghazni	355.2	461.3	-23%
Nangarhar	398.0	463.2	-14%
Helmand	798.6	847.4	-6%
Total	3,332.3	3,752.7	-11%

Derived from Table 13

A more detailed study of the data reveals some interesting changes regarding area allocation. A summary of this estimate is given in Table 12 for high-valued crops derived from the unadjusted data. Of the total area planted with nuts (walnut, almond, peanut) in the five provinces, over 50% was in Helmand in both 2003 and 2004. Parwan accounted for the next largest area under nuts, though it declined from 36% in 2003 to 16% in 2004⁴. About 60% or more of the area under fruits was in Parwan, followed by Ghazni. For vegetables, Nangarhar and Kunduz accounted for a bigger share – the latter in fact doubled its share to 38% in 2004.

The total area under nuts for the primary provinces has gone down by 16% in 2004. The biggest fall was in Ghazni (70%), followed by Parwan (62%). Conversely, area under nuts increased by 11-fold in Nangarhar. Virtually all of this gain was from area planted with peanuts, which increased by 197%. Nangarhar and Helmand were the major peanut growing provinces. However, the decline in walnut and almond area exceeded the area gain from peanuts.

Table 12. Proportion of Area under High-Value Crops

	Percentage of Area Under Crop 2004 PRA			Percentage of Area Under Crop 2003 PRA			Percentage Change (2004/2003)		
	Nuts	Fruits	Vegetables	Nuts	Fruits	Vegetables	Nuts	Fruits	Vegetables
Kunduz	7.2	3.7	38.3	6.7	4.6	18.6	-8.7	-5.9	5.7
Parwan	16.1	57.3	9.4	35.7	66.1	9.8	-61.9	2.1	-50.2
Ghazni	1.5	24.7	14.9	4.2	16.2	9.8	-70.1	79.4	-22.7
Nangarhar	24.4	1.5	19.3	1.7	2.2	45.3	1076.3	-19.5	-78.4
Helmand	50.8	12.9	18.1	51.6	10.9	16.4	-17.0	38.9	-43.1
Total	100	100	100	100	100	100	-15.6	17.8	-48.5

Nuts: almond, walnut, peanut. Fruits: apricot, pomegranate, grape, raisin. Vegetables: tomato, onion, eggplant, potato, okra, melon.

Area under fruits has gone up by 18% in 2004, suggesting a strong recovery in the fruit sector. This recovery was particularly evident in Ghazni where a massive 79% increase in area planted was achieved. In Helmand, area under the high-valued fruits has gone up by 39%. There was a modest 2% increase in fruit area in Parwan.

All of the gain in fruit area was from grapes, which showed an overall increase of 20%. In Ghazni area under grapes increased by 84% compared to 6% in Parwan. There was no fruit area expansion in Helmand and Kunduz.

Area under the six high-valued vegetables (tomato, onion, eggplant, potato, okra, melon) in the primary provinces has fallen by 49%. Within these vegetable category, area under onions fell by 81%; okra by 62%, eggplant by 41%, and melon by 7%. The major fall in vegetable area was in Nangarhar and Parwan with 78 and 50% respectively. By contrast, Kunduz registered a 6% increase in the area planted with vegetables. Thus, virtually all of the output gain in vegetables in 2004 was due to increased productivity and the cultivation of certain crops like sugarcane in Nangarhar and the unprecedented expansion in area planted with low-valued vegetables like spinach, cabbage and cauliflower in virtually all the five provinces (for cross reference on these changes see Tables 2a to 2e).

6.2 Cropping Pattern: Measured in terms of area allocated to growing the principal crops of cereals, cash crops (cotton), vegetables, oil seeds, legumes, etc the cropping pattern is decidedly in favor of cereal crops (see summary table below). Cereals dominate the land allocation (see summary table below). Aggregate cereal

⁴ This table should be read with great care. Note that the inclusion of peanuts in the estimate is the principal reason for the skewed distribution of area under nuts between the provinces. The most important high-valued nuts (almond, walnut and pistachio) are located mainly in Ghazni, Parwan and some in Kunduz.

area accounted for over 60% of the total cropped area in both 2003 and 2004. As expected, proportionally more land is dedicated to growing wheat which accounts for over 42% of the total area cultivated, followed by rice at 15%, maize 5%, and barley 3-4%. About 12% of the total cropped area in 2004 was devoted to producing vegetables as against 15% in 2003.

Summary Table: Proportion of Area under Crops (percentage of annual total)

	2003	2004
Cereals	61.6	62.4
Barley	4.2	3.1
Maize	4.5	4.4
Millet	0.3	0.02
Rice	10.3	14.8
Wheat	42.4	40.1
Vegetables	14.9	12.1
Legumes	10.2	11.1
Edible Oils	1.9	2.4
Cotton	5.3	5.3
Fruits	3.4	3.9
Nuts	2.6	2.9
Proportion under subsistence crops	71.9%	73.5%
Proportion under high-value crops	28.1%	26.5%

Note: Derived from Table 11.

Legumes accounted for over 10% of the area cropped in both 2003 and 2004, while that of edible oils increased by about 24%. Cotton maintained its share at 5% while the share of fruits and nuts showed a small increase.

Despite minor shifts in area allocation from subsistence to cash crops, the crop mix has not shifted decidedly in favor of the high-valued crops; the ratio of subsistence crops (cereals and legumes) to gross cropped area was over 70% in both years, while the corresponding ratio for commercial crops (cotton, vegetables, fruits, nuts and oil seeds) remained essentially unchanged at under 30%. Perhaps this expectation is unrealistic at this early stage. The PRA survey suggests that new fruit saplings are being planted and orchards are established in some villages where the weather has been favorable but not at a large scale to cause a major change in the traditional cropping pattern (annex2).

Inter-province data suggest greater awareness in Parwan and in Nangarhar about the value of planting high-value crops to compensate for the low per capita cropped area. The estimate based on the adjusted data gives (see summary table below) a lower ratio of subsistence to high-valued crops for these two provinces. In Parwan, about 60% of the cropped area was under subsistence crops in 2003. This ratio even improved in 2004, where subsistence crops accounted for about 53% of the cropped area. Nangarhar had the next better ratio at 61% but this changed in 2004 with more land being allocated to growing subsistence crops. Helmand too increased its share, from 64% in 2003 to about 67% in 2004, while Ghazni maintained the 2003 ratio. Kunduz has above average subsistence to high-value crop ratio.

Summary Table: Proportion of Area under Subsistence and High-Valued Crops (percentage of annual total for province)

	2003		2004	
	Subsistence	High-Value	Subsistence	High-Value
Kunduz	83.4	17.5	84.1	15.9
Parwan	59.9	41.1	53.9	46.1
Ghazni	70.4	29.6	70.1	29.9
Nangarhar	60.6	39.4	65.5	34.5
Helmand	63.5	66.5	66.7	33.3

Derived from Table 13

High-valued crops assume great significance with low per capita land availability. This probably explains why the ratio of subsistence to high-valued crops is high in Parwan and Nangarhar where the per capita land available was 0.45 and 0.49 jeribs respectively. For land expansive provinces, this ratio tends to be high and hence relatively low ratio of high-value: subsistence crops (for Ghazni 1.6, and Kunduz 1.75 jeribs). Helmand is somewhere in between.

6.3 Crop Productivity: A summary of yield rates derived from Table 11 (adjusted data) is given below. By way of comparison Table 14 also provides both area and yield changes for the unadjusted data. The adjusted data reveal that per jerib productivity of most crops has showed a marked decline during the reference period, except for vegetables. Aggregate cereal yield declined by 11%, from 423 to 375kg/jb. Cotton declined twice more than wheat while fruit and nut productivity collapsed by a third of its 2003 level. Legumes and edible oils also registered a fall of 6 and 15% respectively. By contrast, the productivity of vegetables increased by 57%, both because of increased area and change in the crop mix.

A breakdown of the cereal sector reveals that all the cereals have registered negative growth. Millet lost ground more than any other cereal – the average yield per jerib shrunk by 48% while that of rice fell by 17%. The other cereals did not fair any better either. The most significant loss was registered for maize, 13%, followed by barley 12%, and wheat 9%.

Crop yield per unit land (amount of crop harvested per unit land planted) is an important indicator of agricultural productivity. It measures farmers' dexterity as well as adoption of improved technology (inputs, irrigation, farming techniques, etc). ICRADA is measuring these and related indicators of productivity and the information when available may shed light about the critical explanatory variables. In the meantime, all that can be said is that yield was down probably because of the very reasons reported by FAO – poor and variable rainfall, disease, lack of good quality seeds and fertilizer, etc.

Summary Table: Estimated Crop Productivity (Kg/Jerib)

	2003	2004	Percentage
<u>Change</u>			
Cereals	423	375	-11.3
Cotton	408	317	-22.3
Vegetables	1,957	3,066	56.7
Legumes	194	183	-5.7
Edible Oils	260	221	-15.0
Fruits	3,773	2,619	-30.6
Nuts	986	683	-30.7
Wheat ¹	417	380	-8.9
Barley	352	309	-12.2
Maize	599	519	-13.4
Rice	401	335	-16.5
Millet	386	199	-48.4

Note: 1. Average for irrigated and rainfed land. Estimate derived from Table 11.

6.4 Cropping Intensity: Table 15 depicts estimated cropping intensities from the adjusted data. The data show that Parwan was most intensively cultivated at 125% in 2003, followed by Kunduz at 109%. This ratio has fallen in 2004 – in the case of Parwan more significantly. Somewhat surprisingly Nangarhar is not intensively cultivated. In fact the ratio declined from about 85% in 2003 to 73% in 2004. This is the province where the weather favors double or even multiple cropping and much of the land is also irrigated. Helmand and Ghazni have the lowest ratios. Overall, the cropping intensity for the five provinces has somewhat declined from

92% in 2003 to 82% in 2004, probably reflecting the overall decline in agriculture production.

Table 15. Estimated Cropping Intensity by Province

	Total Area (000 Jbs)	Based on 2004 Adjusted PRA		Based on 2003 Adjusted PRA	
		Cropped Area (000 Jbs)	Cropping Intensity (Percent)	Cropped Area (000 Jbs)	Cropping Intensity (Percent)
Kunduz	1,435.4	1,478	103.0	1,565.1	109.0
Parwan	332.4	301.7	90.8	415.8	125.1
Ghazni	589.9	355.2	60.2	461.3	78.2
Nangarhar	542.5	398.0	73.4	463.2	85.4
Helmand	1,190.3	798.6	67.1	847.4	71.2
Total	4,090.5	3,332.3	81.5	3,752.7	91.7

6.5 Output Change: Agricultural output is decomposed into the combinations of changes in area, yield and cropping pattern. Table 11 provides this by crop. A summary from the adjusted and unadjusted data is presented in the table below. The adjusted data show a 3% decline in crop output in 2004 over the previous year against a 7% fall for the unadjusted data reflecting the impacts of environmental and institutional constraints noted earlier. Among the crop categories, output for fruit, nuts and cotton was down by over 30%. The cereal sector also lost ground by 20%. Legumes and edible oil crops sustained relatively low fall, 3 and 9% respectively, while the corresponding values for vegetables was positive at 13%.

Summary Table: Output Change, 2004/2003 (in percentage)

	Adjusted Data	Unadjusted Data
Cereals	-20.3	-9.1
Wheat	-23.6	-23.0
Barley	-42.5	4.9
Maize	-24.0	3.8
Rice	6.6	39.4
Cotton	-31.6	-32.0
Vegetables	12.7	12.7
Legumes	-9.3	-20.8
Edible Oils	-3.0	76.9
Fruits	-30.6	-24.4
Nuts	-30.8	-75.8
Total	-2.7	-6.2

Derived from Tables 11 and 13

The decline in yield combined with the shift in area cropped depressed wheat and other cereal output. Barley lost over 40% of its 2003 output because of the general fall in rainfed area cropped; maize and wheat output fell by 24% each while rice made a net gain of 7% due to increased area cropped. Although the area cropped with edible oils increased by 14%, this gain was not large enough to offset the fall in output because productivity fell by 16%. Output from legumes has also fallen due to the decline in both area (4%) and yield (6%). Conversely, vegetables gained in output and value mainly because of a 57% gain in productivity.

Incomes or returns to farmers play a role in the selection of crops to grow. It may be stated that as incomes increase, farmers switch to higher value crops, substituting for crops grown primarily for home consumption. Such adjustments are unlikely to happen in a large area in a space of one year. This explains the rationale in farmers' decision to continue allocating land to the low-value food-cum-feed crops. Traditional, subsistence crops such as barley, millet, maize, chickpeas and beans, are grown by farmers primarily to meet own household food and fodder requirements. The output

of these crops is low, precisely because price and profit-related factors play little role in farmers area allocation decision.

A summary of output change is given below. The estimate is that aggregate agricultural output for the primary provinces (in metric tones) was below the 2003 level by 9%. Kunduz and Helmand accounted for nearly 60% of the gross output for the primary provinces in 2004; Ghazni had the lowest share, just 8%. Compared to the base year, the share of Ghazni and Parwan to the aggregate output had declined by 44 and 30% respectively, mainly due to the fall in fruit and nut productivity. Nangarhar also sustained some loss but a relatively small rate. Conversely, Kunduz and Helmand increased their share, the latter by about 20% over the base year output.

Provincial level data can be read by cross referencing Tables 2a to 2e. In the table below the column on unadjusted data also measure the percentage change within the individual provinces. The data suggest that Parwan and Ghazni sustained a fall of 22 and 54% respectively. Output in 2004 in Helmand was up by 18% and in Nangarhar by 10%. These spatial variations in the growth process are useful guides for resource allocation.

Summary Table: Percentage Change of Annual Output by Province⁵

	Adjusted Data			Unadjusted Data		
	Percentage of total ¹		Percentage Difference ²	Percentage of total ¹		Percentage Difference ²
	2003	2004	2004/2003	2003	2004	2004/2003
Kunduz	32.6	36.7	2.2	30.3	33.2	1.4
Parwan	23.6	18.3	-29.7	20.7	17.5	-21.6
Ghazni	13.4	8.3	-44.3	14.9	7.3	-54.3
Nangarhar	14.1	15.2	-2.2	14.5	17.2	9.9
Helmand	16.2	21.5	19.8	19.6	24.8	17.8
Total	100.0	100.0	-9.4	100.0	100.0	-7.2

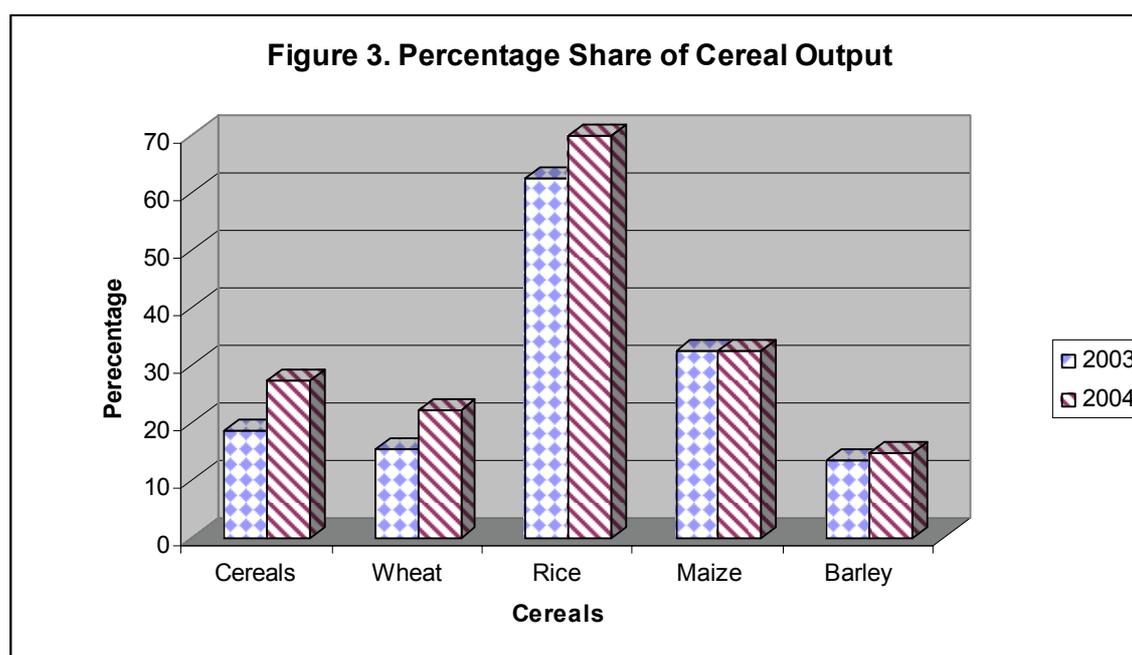
Note:1 = estimated from the aggregate output for the five provinces. 2 = estimated from the aggregate for the individual province. Derived from Tables 11 and 13

The cereal output, for which we have a reasonably accurate data, can now be compared with national data derived from FAO reports (see also Figure 3). Based on the adjusted data, aggregate cereal production for the primary provinces was 18.7% of the national output in 2003; in 2004, this ratio improved to 27.2%, mainly because cereal production on average failed by a bigger margin in other parts of the country - in the West, Southwest and South, for example, by more than 50%. Of the major cereals aggregate wheat production for RAMP provinces was 15.2% of the national output in 2003 and 22.1% in 2004. Maize and barley maintained their respective shares at 32 and 14% over the two year period. Rice increased its share, from 62.4% in 2003 to 69.6% in 2004.

Official national level output figures are not available for other crops to draw comparisons. However, based on output projections made by RAMP (see RAMP working document # 6), the share of the primary provinces can be estimated. On this account, fruits and vegetables had, respectively, a 42 and 47% share of the national production in 2004.

⁵ This estimate is rather crude, because it lumps together bulky products like fruit with cereals, and is very much susceptible to crop mixes. For example, melon weighs more than cereals, and if more of it was produced in one year, the aggregate output (in metric ton) is inevitably going to be higher than the other year. The ratios should therefore be read with some caution.

The data suggest that the five primary provinces are indeed the major force of agricultural production in the country. Any hiccup of even a temporal nature that catalyzes a fall in agriculture output would have major repercussions for economic recovery.



6.6 Per Capita Food Availability: An indication of the level of food security can be gauged from the adjusted PRA data. Gross production of subsistence crops (wheat, maize, barley, rice and millet) for the primary provinces declined from 294 kg per person in 2003 to 181 in 2004, a fall of 38% (population figures are from Table 1).⁶ Per capita cereal consumption in Afghanistan is estimated at 180kg per year (which includes 160kg wheat, 17kg rice, 2kg maize, and 1 kg barley). In 2003, all but Nangarhar had met this requirement. But in 2004, Parwan and Ghazni slipped back and together with Nangarhar the three provinces became food insecure. Helmand just about achieved the minimum requirement. Being the major cereal growing province in the country, per capita food output in Kunduz was 5 times or more than that of Parwan, Ghazni and Nangarhar and thrice larger than Helmand.

Summary Table: Estimated Per Capita Subsistence Crop Production, Kg per Person

	2004	2003	Variance (000 Mt)	Percentage change 2004/2003
Kunduz	515.4	713.8	-162.7	-27.8
Parwan	94.5	200.8	-77.2	-52.9
Ghazni	70.4	194.4	-115.4	-63.8
Nangarhar	83.9	119.8	-39.2	-30.0
Helmand	179.0	299.2	-89.6	-40.2
Total	181.3	293.6	-484.0	-38.2

Derived from Tables 1 and 13

Overall, the 2004 output figures are not promising, because under traditional agriculture intensification and commercialization (through the production of high value commercial crops) often occurs after farmers had achieved a certain threshold level of food security (i.e. production of staple grains). With output from high-value commercial crops falling by up to a third and population growing by at least 2% per

⁶ Note that this is not a measure of entitlement (or access) to food as such which is generally governed by many factors, not least institutional and market forces, but a demonstration of food availability.

annum, falling subsistence food output, especially if it persists for long, can thwart any hopes of achieving food security and increasing incomes.

6.7 Marketed Surplus: A substantial increase in output is necessary to meet increasing demand for food and economic development. But an increase in production alone does not serve this purpose unless it is mobilized and made available to those who need it. It is in this context that the assessment of the marketed surplus assumes considerable importance. It also indicates the degree of commercialization and by definition the marketing behavior of farmers.

There are two concepts of surplus, marketable surplus and marketed surplus. The former defines RAMP's strategic objective; the latter is the residual left with the producer for sale after meeting his requirements for food, seed, feed, rent, etc. The ratio of marketed surplus (M') to marketable output (M) shows the strategy farmers pursue in managing their output. The lower the ratio (M'/M) the lower will be the degree of commercialization or market integration.

On account of the PRA data it seems that Afghan farmers do in fact sell a large proportion of their output. Table 15 shows this ratio which nonetheless varies between provinces and crops. Aggregate output marketed in Kunduz, Parwan and Helmand was more than two-third of the output in both 2003 and 2004. Surprisingly farmers in Nangarhar dispose of less than half of their output, presumably because their cash requirements are met from the sale of illicit drugs. Ghazni sold two-third of the output in 2003, but this fell sharply in 2004 because of the sharp fall in agriculture output.

Though the aggregate output marketed is high, crop specific analysis reveals that the proportion of output marketed is consistently low for cereals. The highest proportion of cereals was sold in Kunduz and Helmand, about 66 and 50% respectively; the lowest was in Parwan and Ghazni, again because of the vagaries of the weather and disease that seriously reduced aggregate production in these two provinces in particular.

Table 15. Proportion of Production Marketed, Based on Unadjusted Data (in percent)

	Kunduz	Parwan	Ghazni	Helmand	Nangarhar
Cereals	66.3 (72.2)	8.8 (11.4)	4.6 (14.4)	50.0 (44.2)	24.5 (12.5)
Cotton	79.4 (99.2)	56.3 (86.1)	0.0 (0.0)	99.2 (100)	58.4 (21.0)
Vegetables	70.7 (83.7)	67.7 (51.8)	58.9 (76.0)	75.4 (72.7)	74.9 (68.1)
Legumes	82.6 (93.7)	59.6 (64.2)	77.1(68.4)	62.3 (77.0)	66.0 (23.7)
Edible Oils	61.1 (65.1)	58.6 (80.4)	98.8 (82.8)	97.6 (90.0)	66.5 (1.5)
Fruits	61.0 (74.9)	68.3 (75.9)	60.8 (86.8)	67.2 (72.2)	51.7 (18.0)
Nuts	85.5 (92.1)	98.2 (40.2)	88.8 (88.3)	95.2 (99.8)	84.1 (61.0)
Average	68.2 (79.1)	64.4 (60.0)	28.4 (67.5)	64.3 (60.3)	49.6 (36.1)

Note: Figures in parenthesis are for 2003

Within the cereal category the proportion of wheat output sold is low across the board: 13% in Nagarhar, 3% in Ghazni and Parwan, 33% in Helmand, and 25% in Kunduz. By contrast, more rice is sold, ranging from 50-60% in Nangarhar and 70-80% in Kunduz but somewhat low for the so-called "inferior" cereals, notably barley and millet because part of the output is also allocated for animal feed. In any case, the aggregate rice output was small, about 166 thousand metric ton and it was not harvested in Helmand and Ghazni. In absolute terms therefore the total rice production was 33% higher than the proportion of wheat output sold.

In the case of maize marketing, there is a marked difference between the provinces; it ranges from a low 35% in Kunduz and 42% in Parwan to 63% in Nangarhar and 77% in Helmand in 2004. Maize was not sold in Ghazni as much of the crop failed due to poor weather. Maize is consumed by many Afghan families, but some of it is also allocated for animal feed.

Overall, the marketed surplus of cereals has fallen in 2004. A plausible explanation is that in a developing country like Afghanistan, the propensity to consume food grains in the initial stages of development is high. At a later stage, when production gets stabilized at a higher level, and where the domestic consumption requirements are fairly met, one could logically expect an increased proportion of the cereal output being channeled to the market.

In the case of vegetables, the proportion of output sold was consistently high for all the provinces, ranging from low 59% in Ghazni to a high 75% in Nangarhar and Helmand.

Legumes and edible oils were also sold in large quantity, but with some variation between the provinces. Kunduz disposed of proportionally more legumes and edible oils while Nangarhar sold over two-third of the output in 2004 as opposed to a meager ratio in 2003. Legumes are largely subsistence crops, but when sold they fetch a good return per unit land, and this probably explains the high M'/M ratio in Nangarhar.

Fruit and nuts are cash crops and a larger share of the output is destined for the domestic and overseas market. Certain fruit like mulberry are not marketed in large quantity. Farmers value mulberry trees for their shade and leaves for animal feed more so than for their fruit. This has been stated in almost all the PRA villages where mulberry trees are planted along the village roads (hence "public good") rather than in orchards.

6.8 Farm Employment: Table 16 depicts changes in the level of employment⁷. It is observed that the level of total employment has increased, be it marginally. The total use of labor has increased by 5%. In real terms, this increase amounted to 38,744 mandays. Helmand recorded the highest growth, about 14%, followed by Kunduz with 8%. Nangarhar recorded a negative growth of 8% in jobs, presumably because more area is allocated to growing poppy and consequently labor is withdrawn from licit high-value crop production. Parwan and Ghazni generated insignificant number of jobs.

Many factors explain the change in farm employment. The shifting of crop mix and growing more labor absorbing crops generally enhances the level of employment even when the cropping intensity was down. The changing cropping pattern from maize to rice, for example, increases employment by at least 10 mandays per jerib. This is because rice is almost twice as labor intensive crop compared to maize. The shift in crop mix within the vegetable category is also another reason why more jobs are created.

Another reason generally for farm employment growth is the growth in the overall area cropped. However, this appears to have fallen in all the provinces – the highest loss being in Parwan and Ghazni.

Crop-wise analysis reveals a similar pattern across the board: the principal cereals of wheat and maize generated substantial jobs in 2004, in some cases by up to 20%, except in Kunduz where these crops generated fewer jobs. Barley generated a net gain in Helmand and Parwan whereas rice doubled its employment share in Kunduz. Cotton was another crop that generated more jobs in 2004. In Parwan, cotton generated almost 7 times more jobs in 2004, primarily because the area cropped with cotton increased by 42%. Cotton maintained its 2003 employment level in Helmand, where as in Nangarhar it fell by 43% and in Kunduz by 15%.

The fruit and nut sector depicts a mixed picture. In Ghazni, grapes and apricots created substantial jobs. In Parwan, grape and apricot created about the same level of mandays as in 2003, but almond generated 50% fewer jobs in 2004. In Kunduz the

⁷ The employment estimate is based on unadjusted data, because crop-specific adjustment coefficients could not be worked out for individual crops by province.

nut sector maintained the 2003 employment level while in Helmand grapes generated 9 times more jobs in 2004.

The vegetable sector did not do much better. In Parwan, the major vegetable producing province in the country, almost all the vegetables, including the high-valued like okra, onion and potato generated fewer jobs in 2004, simply because the area allocated to growing these crops collapsed. In Nangarhar and Ghazni, the other most important vegetable growing provinces, a substantial fall of employment was recorded in the vegetable sector. In Helmand, jobs from tomato fell by 45% and okra by 65%, but this loss was offset by a net gain in onions (about 20-fold), potato, cauliflower and chili. In Kunduz the principal vegetables of potato and carrots created almost twice more jobs in 2004.

Not many jobs were created in the edible oil and legume categories. Beans and edible oils have lost ground almost everywhere. Mung beans generated some employment but at a somewhat reduced level. Peanut was grown in large area in Nangarhar and Helmand provinces generating over 4,000 net mandays in 2004.

6.9 Valuing Output: Output valuation follows the usual convention in which crops are valued at annual average prices and presented both at current and constant exchange rates. Crop by-products (e.g. straw or dry foliage) are seldom traded in the village markets but when they do they fetch good money. Farmers therefore value them highly. The cost of production study shows that for dual-purpose crops like barley, 50% or more of the total value of production, depending on location, is contributed by the non-grain portion of the plant (see RAMP working document #1). Unfortunately, the non-output values are not quantified in the PRAs to adjust the aggregate output values. The total and net output values, for both adjusted and unadjusted data, are shown in Tables 11 and 13 and summarized below.

First, on the unadjusted data: total output in 2004 fell by 10.3% valued at constant rate. The cereal sector made a 10% gain largely due to a seven-fold increase in the value of barley and another substantial gain from maize. Rice also made a net gain of about 10% over the previous year. This gain in cereal output value is explained by an 8% net increase in area cropped; there was no increase in yield.

The output value from cotton, legumes, fruits and nuts has fallen significantly. Conversely, the output value from vegetables increased by 49%, despite a 28% loss in cropped area. This was achieved primarily because of crop mix involving planting of more high-valued vegetables. The value from edible oils also increased by three-fold because of a substantial gain in area cropped.

Summing up, the output value from the unadjusted data fell from US\$483.2M in 2003 to US\$433.3M. There was thus a loss of US\$49.9M. This loss may be attributed to the various environmental, institutional and market failures that affected agriculture production in 2004.

The adjusted data depicts a somewhat similar picture. Valued at current rate, aggregate output in 2004 fell by a slightly higher margin, 11%. Sector wise, output value from cereals fell by 16% (rice output was down by 11%; barley lost ground by a huge margin, 55%, due to the fall in productivity and area cultivated; maize made a net gain of 7% in output value, despite a fall in area). Cotton also failed to increase its share; valued at current price, output value fell by 23%.

Substantial gains were made from vegetables and edible oils – over 40% each - vegetables due to increased productivity and edible oils because of increased area cropped as well as from the cultivation of certain crops like sunflower and sesame that fetch higher prices. By contrast, the output value from fruits and nuts has fallen by up to 30% because of the fall in production.

Having adjusted the PRA data downward for weather, disease, etc and applying constant rates for exchange rate differentials, the output value fell from US\$463.1 to US\$412.3, a net loss of US\$50.8M. If the 2003 output was taken as a bench mark then this difference in the marketable output value may be attributed to environmental and various market failures.

Table 17. Simple Decomposition of Output Gap

Crops	Difference (000Afs)	Source in Percentage		Value in '000Afs	
		Area	Yield	Area	Yield
Barley	(225,392.0)	73.9	26.1	(166,564.7)	(58,827.3)
Maize	27,755.7	48.5	51.5	13,461.5	14,294.2
Millet	(27,190.9)	67.0	33.0	(18,217.9)	(8,973.0)
Rice ¹	(249,298.5)	28.3	71.7	(70,551.5)	(178,747.0)
Wheat	(674,921.0)	57.6	42.4	(388,754.5)	(286,166.5)
Cotton ¹	(243671.7)	35.0	65.0	(85,285.1)	(158,386.6)
Vegetables	1,642,112.7	33.1	66.9	543,539.3	1,098,573.4
Legumes	(69,562.5)	39.5	60.5	(27,477.2)	(42,085.3)
Edible Oils	78,187.9	82.2	17.8	64,270.4	13,917.4
Fruits	(1,176,507.4)	0	100	0.0	(1,176,507.4)
Nuts	(1,518,563.1)	0	100	0.0	(1,518,563.1)
Total output value	(2,437,050.9)			(135,579.6)	(2,301,471.3)
Value in US\$ at current rate	(52,979,367.2)	Afs/US\$= 46.0		(2,947,383.1)	(50,031,984.1)
Value in US\$ at constant rate	(50,771,893.6)	Afs/US\$= 48.0		(2,824,575.5)	(47,947,318.1)

This output gap was decomposed into area and yield components and the proportionate share of each factor was estimated. A summary of this estimate is given in Table 17. The result shows that the output value fall is explained by yield, accounting well above 50% for all crops except for barley, millet, edible oils and wheat. For fruits and nuts the gap is explained solely by low and/or falling yield. The bulk of the aggregate fall in value is explained by the unprecedented fall in cereal, fruit and nut output – the latter two due to yield.

A more dynamic approach will also estimate the marketable output from potential growth foregone. For example, had the weather been favorable and institutional and market failures averted agriculture production would have not just matched the 2003 level, but increased by some margin. This expectation is consistent with recent trends in which the drought has been pitting out and Afghan agriculture growing reasonably well. Estimated from trend growth in output, Afghan agriculture was growing at an average rate of 2% per annum between 1965 and 1978. The cereal sector was growing at 1.3%. During the conflict years (1978-2001) growth slowed down and in most years it was negative.⁸ Since 1990 there has been a strong recovery and output peaked in 2003. However, 2003 was an exceptional year with bumper harvest and maximum yields. The long-term average growth in agriculture, as shown in FAO crop assessment reports, was established by 1998. Thus, the 1990-2002 average growth rates can be applied to the output data (without specifying the source of growth - area, yield or cropping pattern) to value the production and income foregone.

⁸ The estimated growth rates were derived from World Bank (2004) "Afghanistan State Building, Sustaining Growth, and Reducing Poverty – A Country Report".

	Annual Growth of Agriculture Production ⁹		
	1965-78	1978-90	1990-2002
Wheat	1.6	(4.3)	4.1
Rice	0.9	(2.1)	1.3
Other cereals, etc	1.3	(4.0)	2.8
Vegetables	0.8	(0.4)	3.0
Fruit and nuts	1.9	(3.2)	2.1

The last two columns of Tables 11 and 13 measure these values, both in terms of output and output value forgone. Cereals not specified in the table (millet and barley) as well as legumes and edible oils are adjusted by 2.8%; vegetables by 3%, fruit and nuts by 2.1%. Had the agriculture sector sustained its growth, be it at a somewhat reduced level, output in 2004 would have increased by 89,643 metric ton, equivalent to US\$14.3M (unadjusted data). The adjusted data also gives rather similar values: output would have increased by 91,101 metric ton, worth US\$14.9M valued at constant rate. This would have constituted a net gain from interventions in 2004 in the target provinces. As it stands, however, growth was down and this value constituted income foregone.

Summary Table: Impact (M US\$) at Constant Rate

Source	2003	2004	Net Output Value Loss
Unadjusted Output Value	483.2	433.3	49.9
Adjusted Output Value	463.1	412.3	50.8
Potential Gain Foregone from Growth (unadjusted data)		13.8	
Potential Gain Foregone to Growth (adjusted data)		14.9	

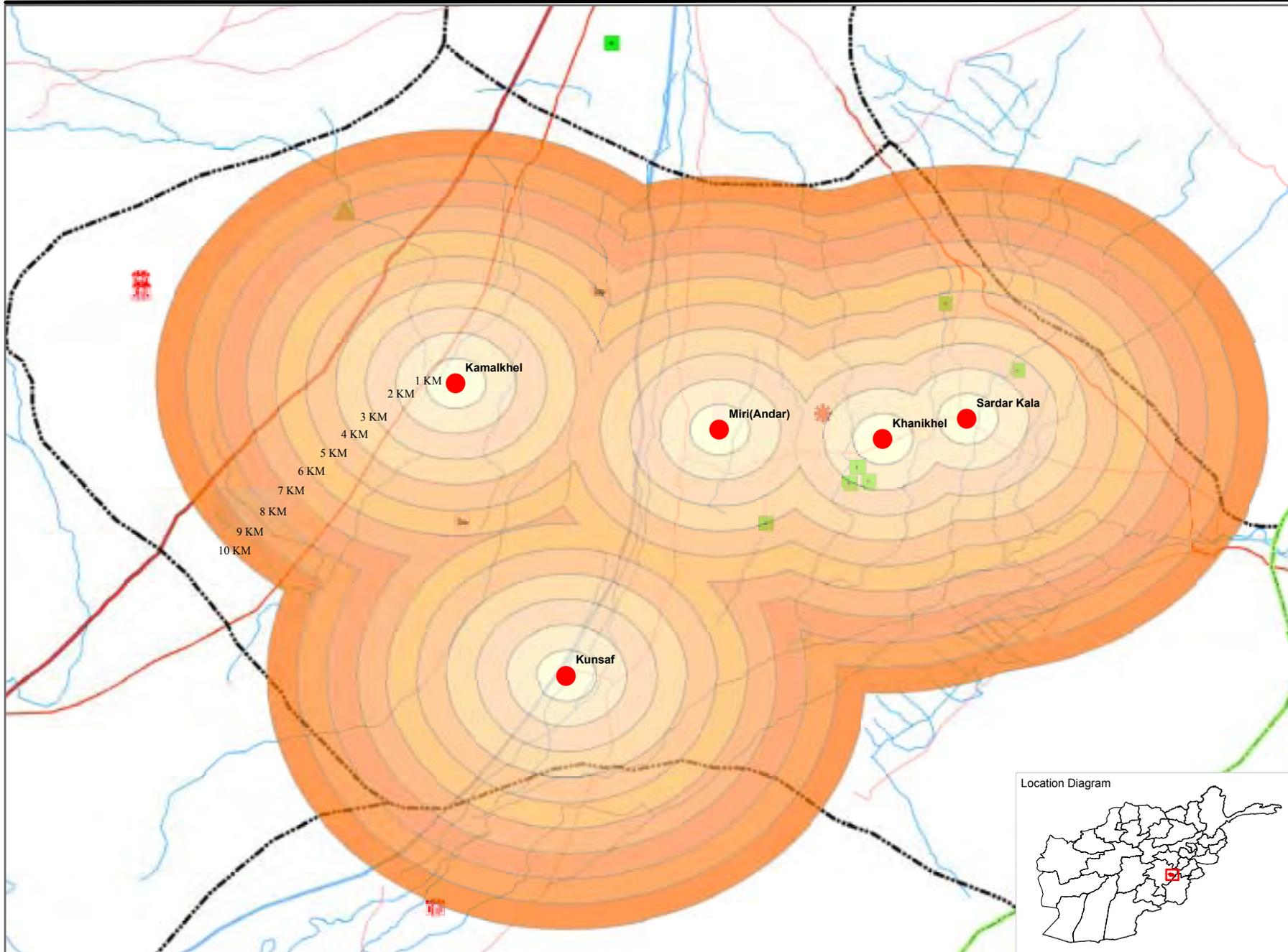
Derived from Tables 11 and 13

⁹ Guimbert, Stephane "Structure and Performance of the Afghan Economy", Technical Annex 1 to Chapter 1, World Bank (not dated).

Annex 1

Maps

PRA Villages & RAMP Activities in Andar District



LEGEND

CENTERS

- Province
- District
- Village

RAMP ACTIVITIES

- 🐔 Poultry Production
- ★ Village Seed Enterprise
- ▲ Protected Agriculture
- On-Farm Demonstration
- 🏪 Market Center/Storage
- PRA Surveyed Villages

BOUNDARIES

- International
- Provincial
- District

ROADS

- Primary
- Secondary
- Tracks

RIVERS

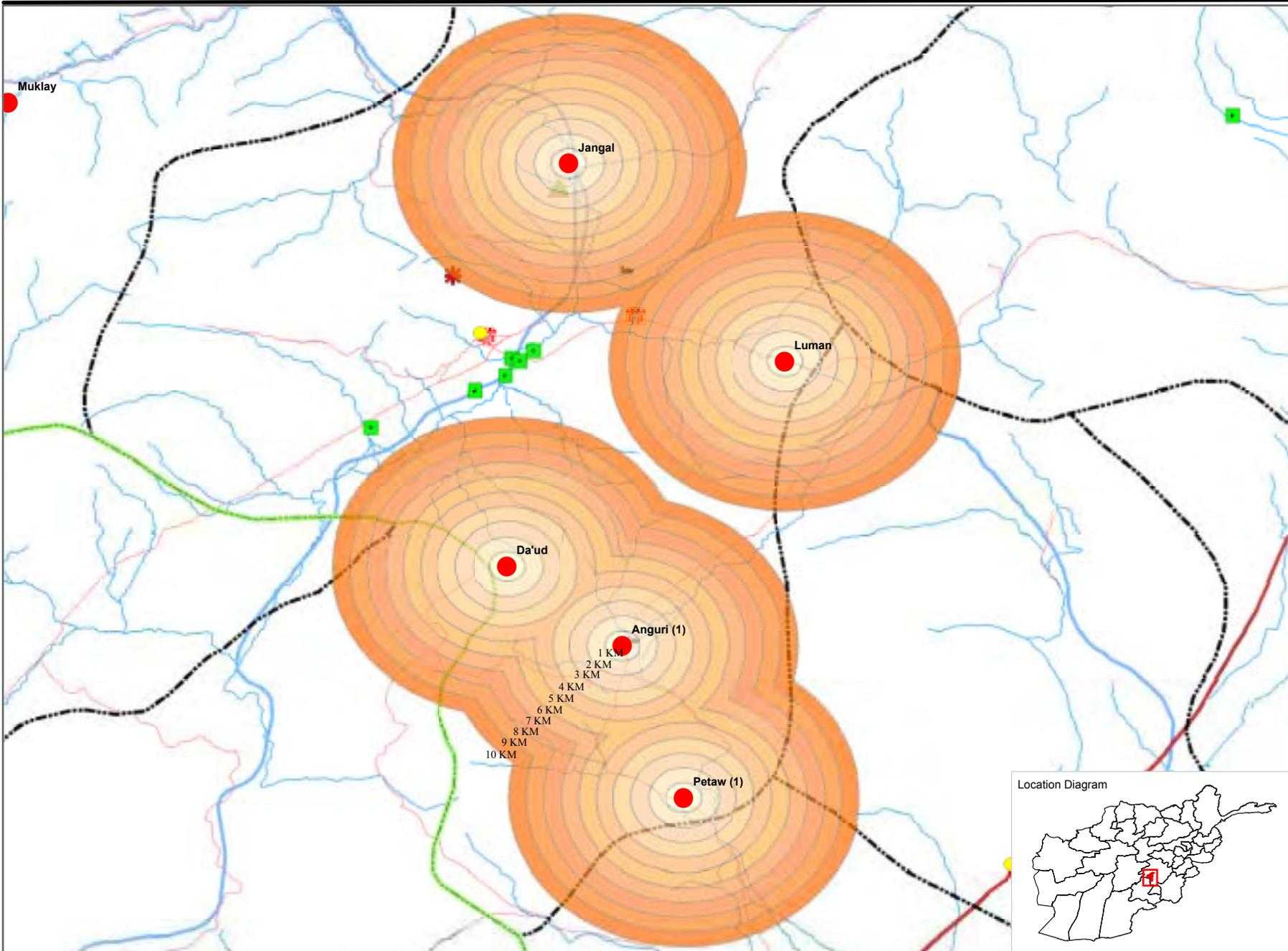
- Main
- Stream
- lakes

Buffer Distance in KM

- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 6
- 6 - 7
- 7 - 8
- 8 - 9
- 9 - 10



PRA Villages & RAMP Activities in Jaghuri District



LEGEND

CENTERS

- Province
- District
- Village

RAMP ACTIVITIES

- 🐔 Poultry Production
- ★ Village Seed Enterprise
- ▲ Protected Agriculture
- On-Farm Demonstration
- 🏪 Market Center/Storage
- PRA Surveyed Villages

BOUNDARIES

- International
- Provincial
- District

ROADS

- Primary
- Secondary
- Tracks

RIVERS

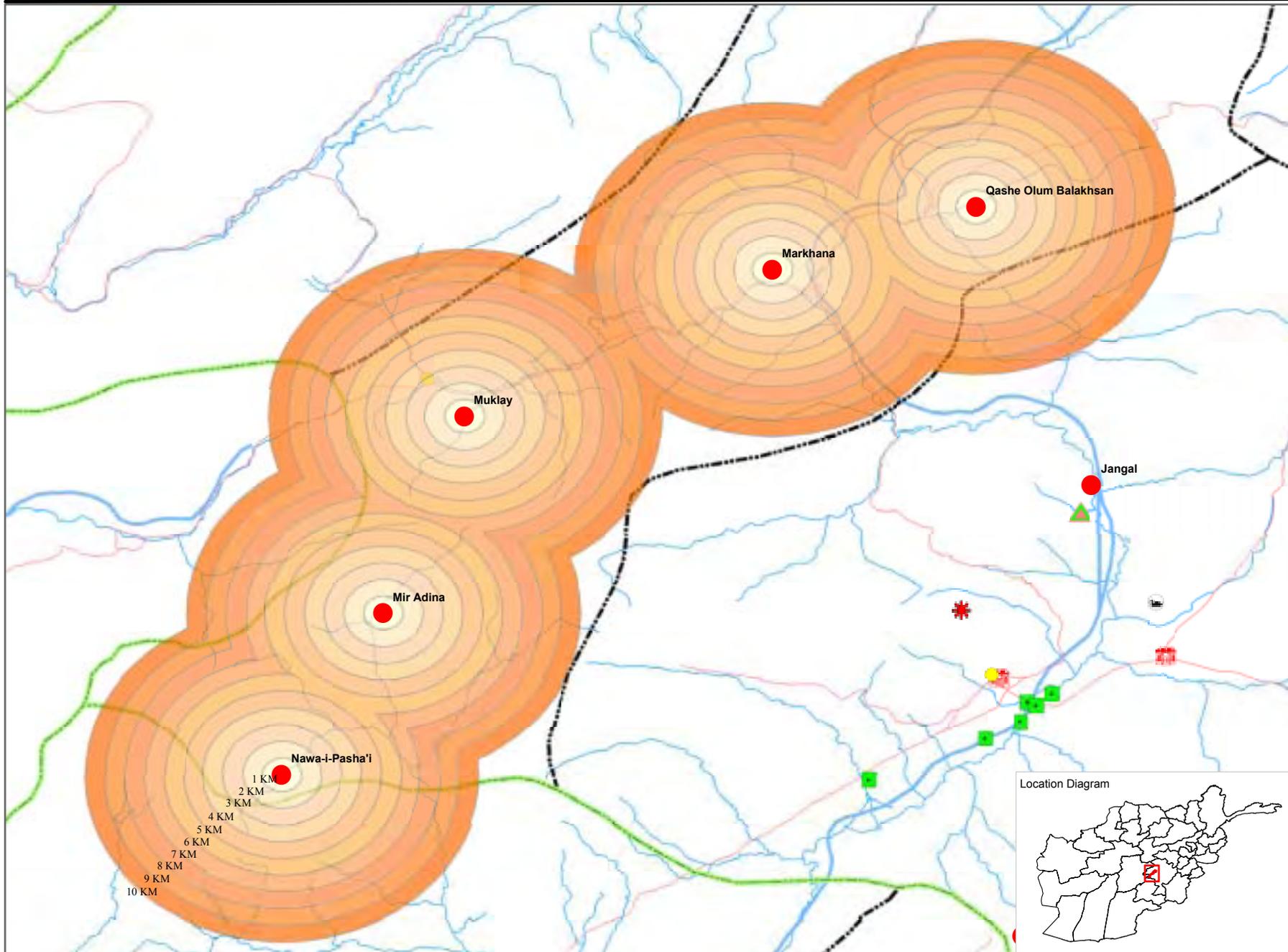
- Main
- Stream
- lakes

Buffer Distance in KM

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- 8 - 9
- 9 - 10



PRA Villages & RAMP Activities in Malistan District



LEGEND

CENTERS

- Province (Yellow circle)
- District (Yellow circle)
- Village (Red dot)

RAMP ACTIVITIES

- Poultry Production (Chicken icon)
- Village Seed Enterprise (Red asterisk)
- Protected Agriculture (Green triangle)
- On-Farm Demonstration (Green square)
- Market Center/Storage (Red building icon)
- PRA Surveyed Villages (Red circle)

BOUNDARIES

- International (Dashed red line)
- Provincial (Dashed green line)
- District (Dashed black line)

ROADS

- Primary (Thick red line)
- Secondary (Thin red line)
- Tracks (Thin black line)

RIVERS

- Main (Blue line)
- Stream (Thin blue line)
- lakes (Blue area)

Buffer Distance in KM

- 0 - 1 (Lightest orange)
- 1 - 2
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- 5 - 6
- 6 - 7
- 7 - 8
- 8 - 9
- 9 - 10 (Darkest orange)

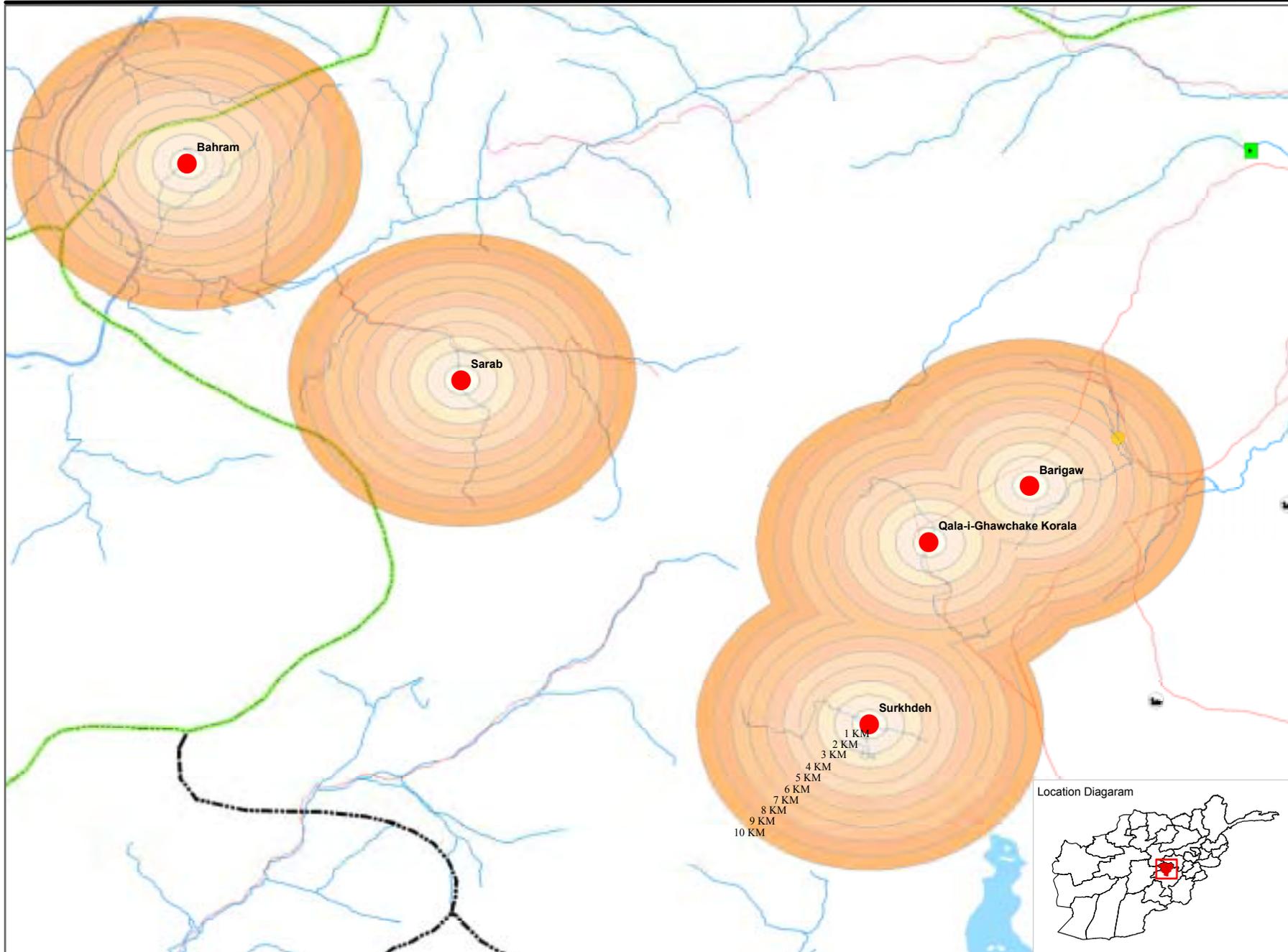


AFGHANISTAN

PRA Villages & RAMP Activities in Nawur District

GAZNI PROVINCE

Buffer Analysis



LEGEND

CENTERS

- Province
- District
- Village

RAMP ACTIVITIES

- Poultry Production
- On-Farm Demonstration
- PRA Surveyed Villages

BOUNDARIES

- International
- Provincial
- District

ROADS

- Primary
- Secondary
- Tracks

RIVERS

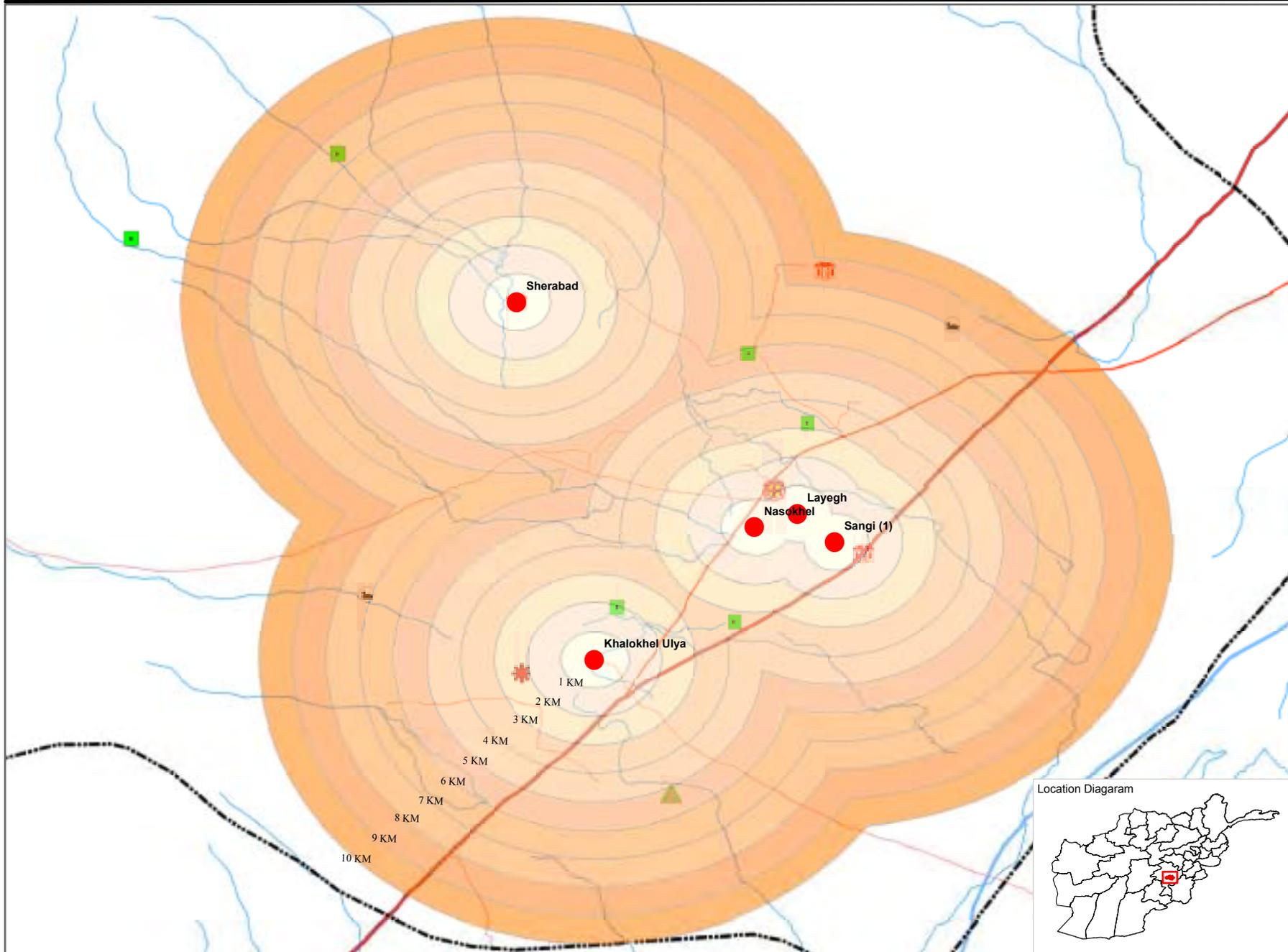
- Main
- Stream
- lakes

Buffer Distance in KM

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- 8 - 9
- 9 - 10



PRA Villages & RAMP Activities in Qarabagh District



LEGEND

CENTERS

- Province (Yellow circle)
- District (Orange circle)
- Village (Red dot)

RAMP ACTIVITIES

- Poultry Production (Chicken icon)
- Village Seed Enterprise (Red star)
- Protected Agriculture (Green triangle)
- On-Farm Demonstration (Green square)
- Market Center/Storage (Red building icon)
- PRA Surveyed Villages (Red dot)

BOUNDARIES

- International (Dashed red line)
- Provincial (Dashed green line)
- District (Dashed black line)

ROADS

- Primary (Thick red line)
- Secondary (Thin red line)
- Tracks (Thin black line)

RIVERS

- Main (Blue line)
- Stream (Thin blue line)
- lakes (Blue area)

Buffer Distance in KM

- 0 - 1 (Lightest orange)
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- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 6
- 6 - 7
- 7 - 8
- 8 - 9
- 9 - 10 (Darkest orange)

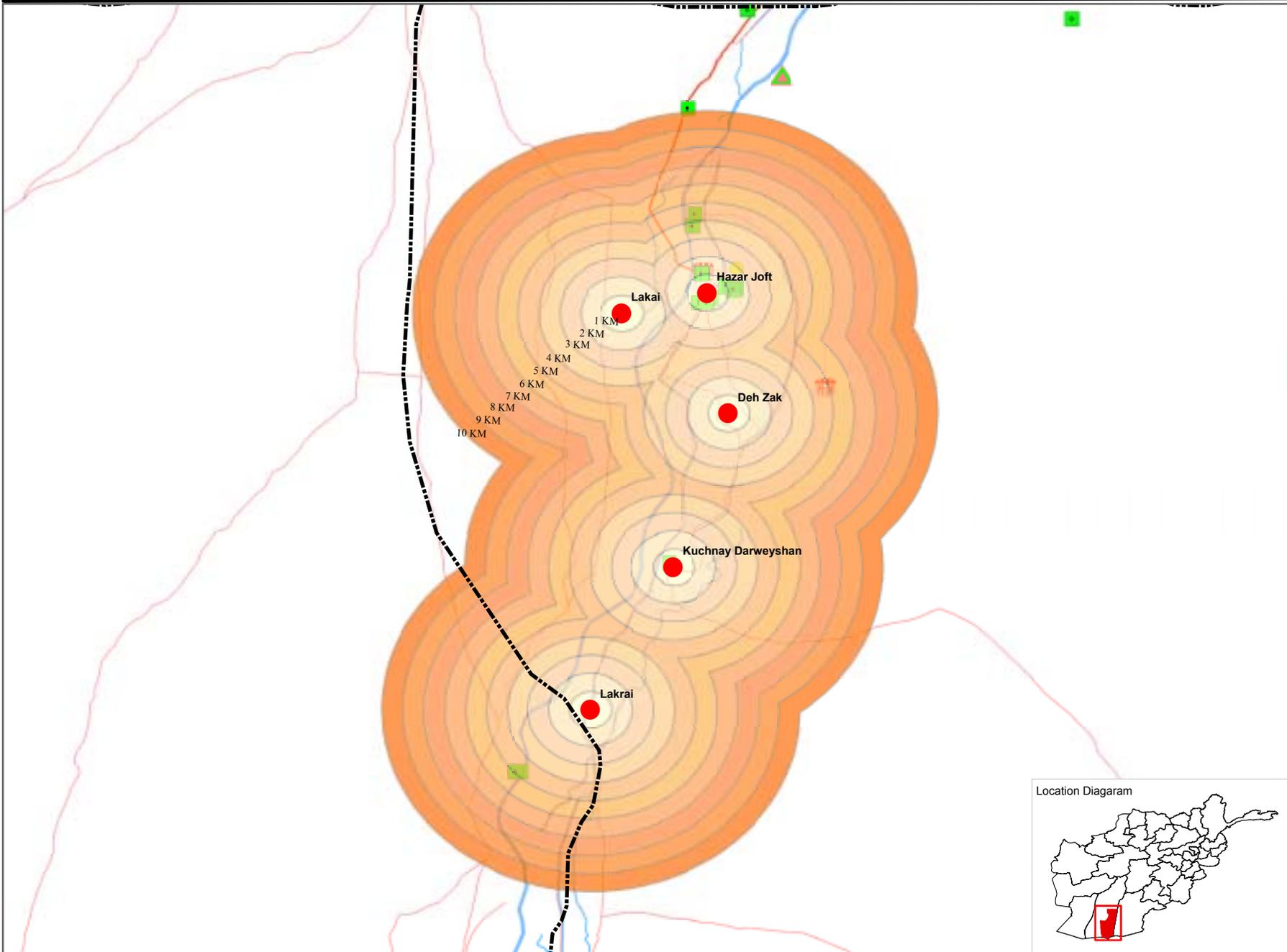


AFGHANISTAN

PRA Villages & RAMP Activities in Garmser District

HILMAND PROVINCE

Buffer Analysis



LEGEND

CENTERS

- Province
- District
- Village

RAMP ACTIVITIES

- Protected Agriculture
- On-Farm Demonstration
- Market Center/Storage
- PRA Surveyed Villages

BOUNDARIES

- International
- Provincial
- District

ROADS

- Primary
- Secondary
- Tracks

RIVERS

- Main
- Stream
- lakes

Buffer Distance in KM

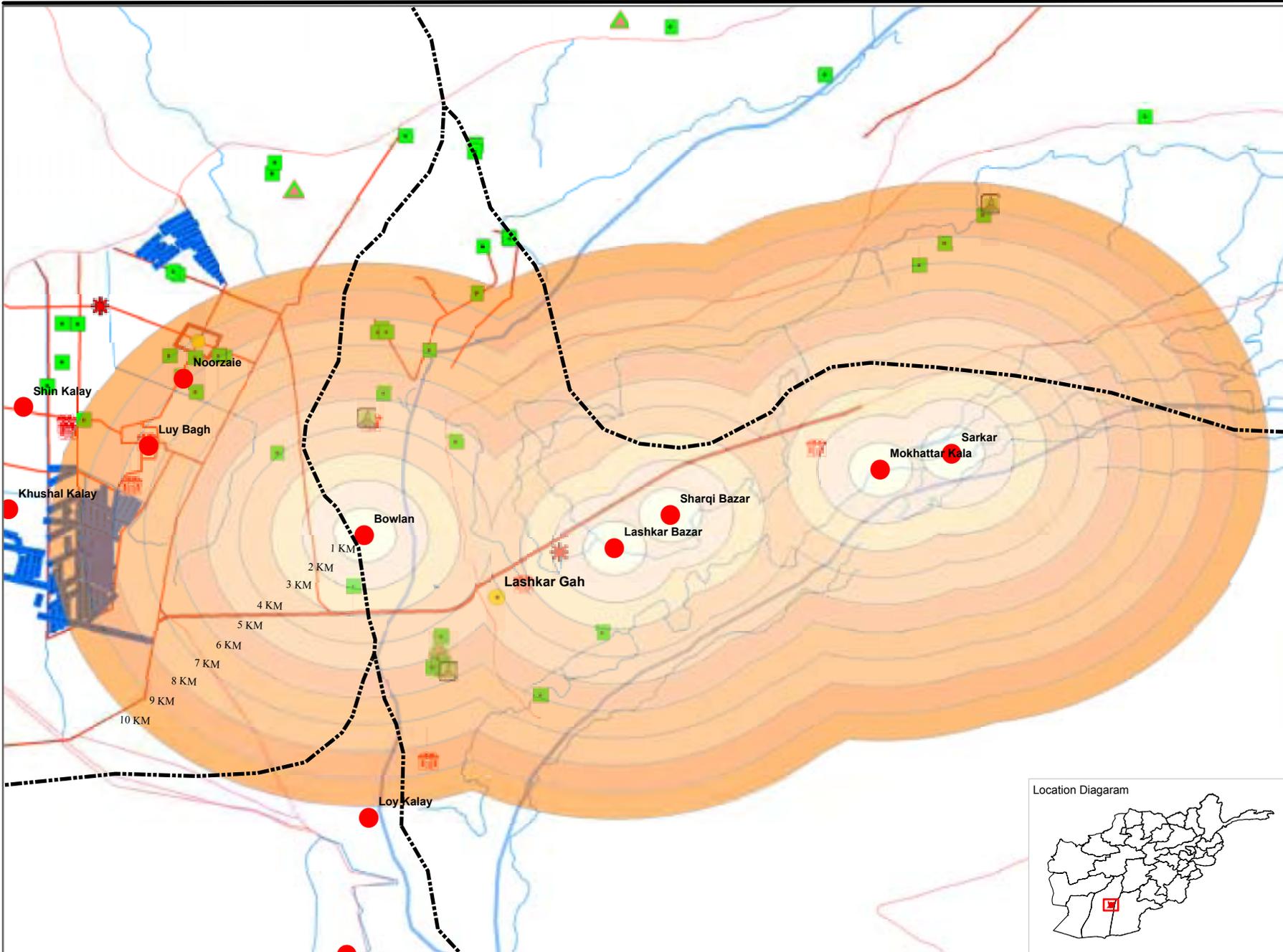
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- 9 - 10

Location Diagram



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RAMP GIS Unit, April 2005

PRA Villages & RAMP Activities in Lashkar Gah District



LEGEND

CENTERS

- Province (Yellow circle)
- District (Yellow circle)
- Village (Black dot)

RAMP ACTIVITIES

- Nursery (Green triangle)
- Village Seed Enterprise (Red asterisk)
- Protected Agriculture (Green triangle)
- On-Farm Demonstration (Green square)
- Market Center/Storage (Red square)
- PRA Surveyed Villages (Red circle)
- Canal Rehabilitation (Blue hatched area)

BOUNDARIES

- International (Dashed red line)
- Provincial (Dashed green line)
- District (Dashed black line)

ROADS

- Primary (Red line)
- Secondary (Orange line)
- Tracks (Thin red line)

RIVERS

- Main (Blue line)
- Stream (Light blue line)
- Lakes (Blue area)

Buffer Distance in KM

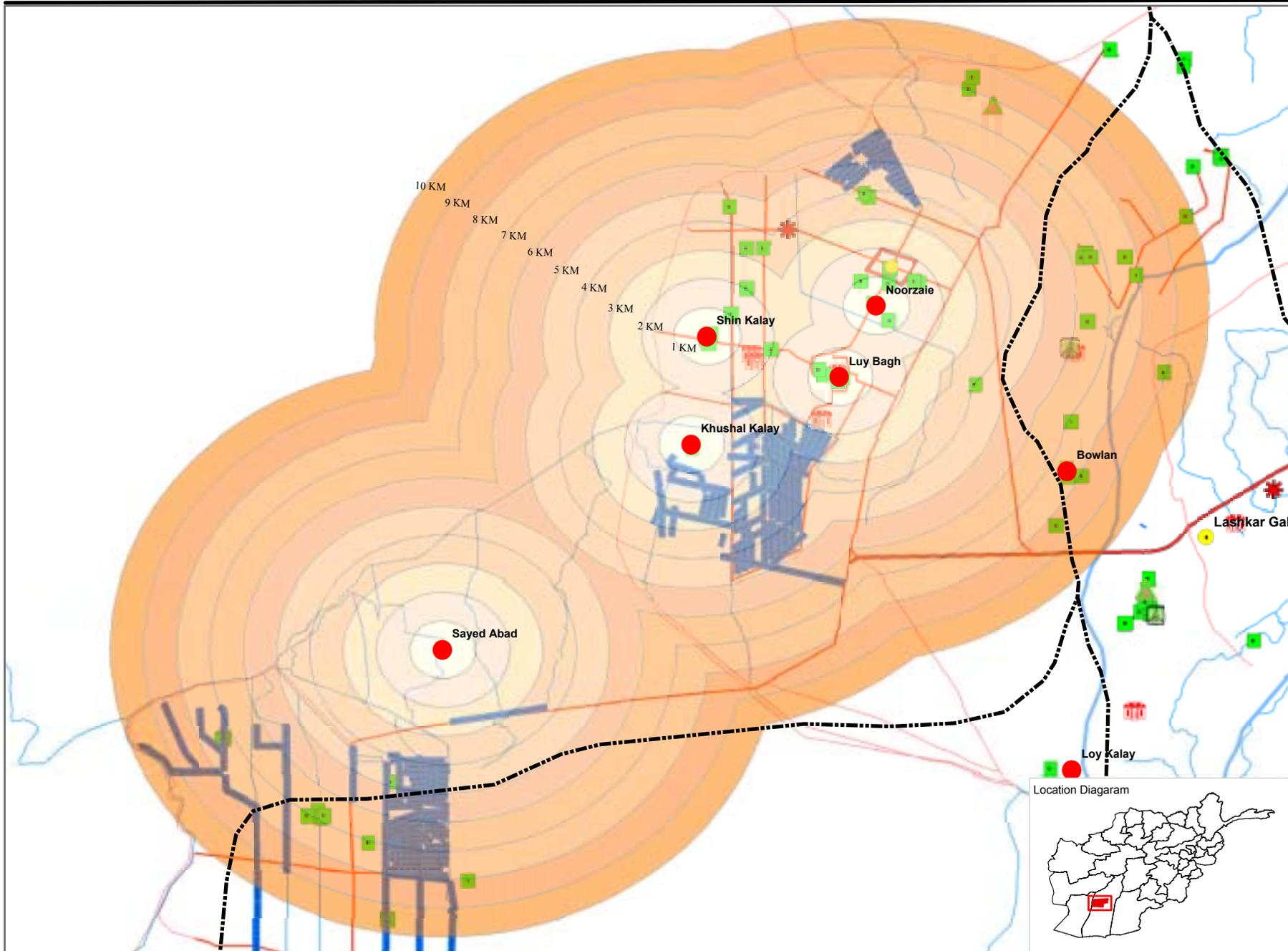
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- 4 - 5
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- 7 - 8
- 8 - 9
- 9 - 10 (Darkest orange)



AFGHANISTAN PRA Villages & RAMP Activities in Nad Ali District

HILMAND PROVINCE

Buffer Analysis



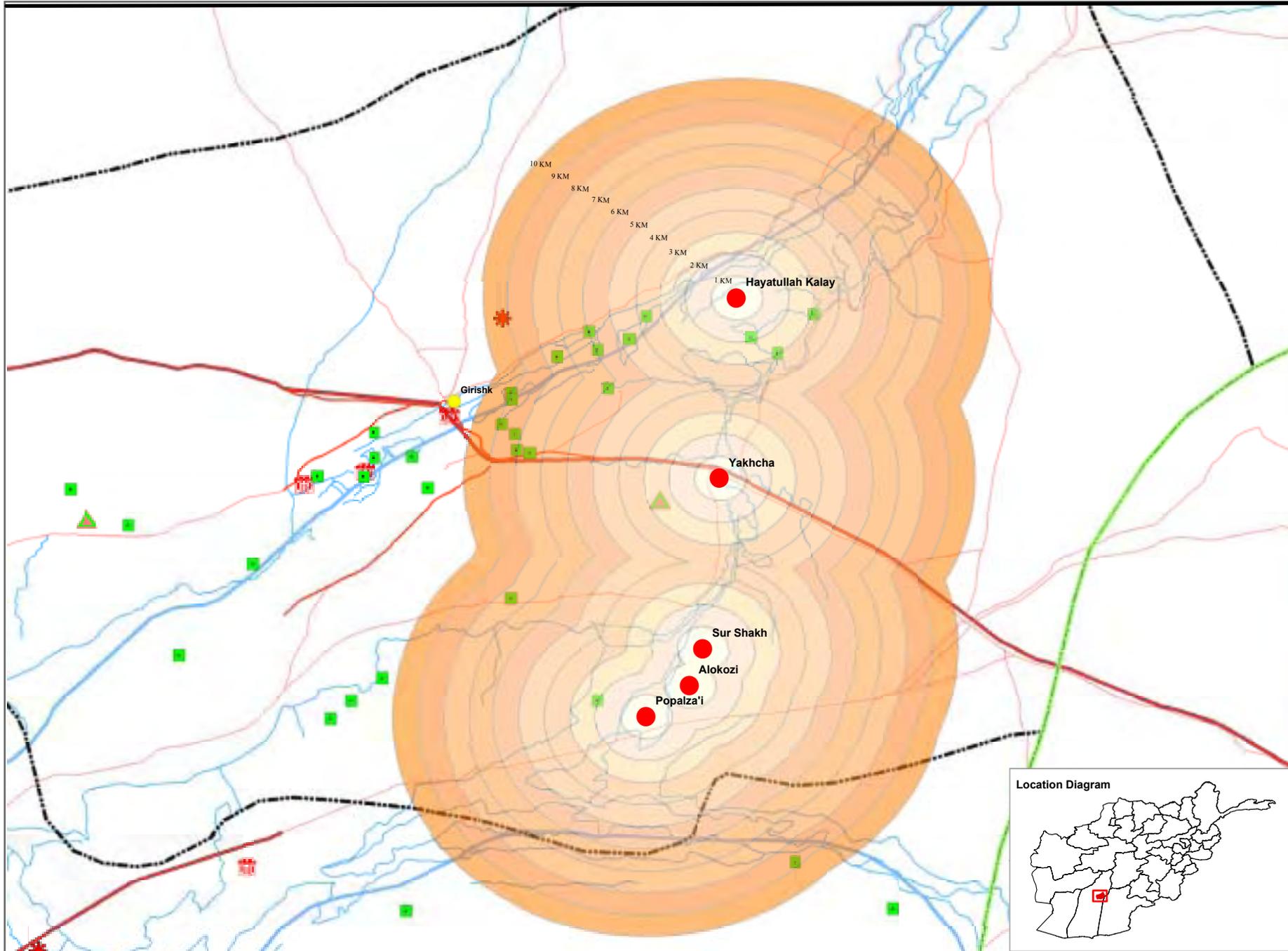
LEGEND

- CENTERS**
- Province (Yellow circle)
 - District (Yellow circle)
 - Village (Black dot)
- RAMP ACTIVITIES**
- Village Seed Enterprise (Red asterisk)
 - Protected Agriculture (Green triangle)
 - On-Farm Demonstration (Green square)
 - Market Center/Storage (Red building icon)
 - PRA Surveyed Villages (Red circle)
 - Canal Rehabilitation (Blue line)
- BOUNDARIES**
- International (Dashed red line)
 - Provincial (Dashed green line)
 - District (Dashed black line)
- ROADS**
- Primary (Red line)
 - Secondary (Orange line)
 - Tracks (Pink line)
- RIVERS**
- Main (Blue line)
 - Stream (Light blue line)
 - lakes (Light blue area)
- Buffer Distance in KM**
- 0 - 1 (Lightest orange)
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 - 5 - 6
 - 6 - 7
 - 7 - 8
 - 8 - 9
 - 9 - 10 (Darkest orange)



AFGHANISTAN
PRA Villages & RAMP Activities in Nahri Saraj District
HILMAND PROVINCE

Buffer Analysis



LEGEND

CENTERS

- Province
- District

RAMP ACTIVITIES

- Village Seed Enterprise
- Protected Agriculture
- On-Farm Demonstration
- Market Center/Storage
- PRA Surveyed Villages

BOUNDARIES

- International
- Provincial
- District

ROADS

- Primary
- Secondary
- Tracks

RIVERS

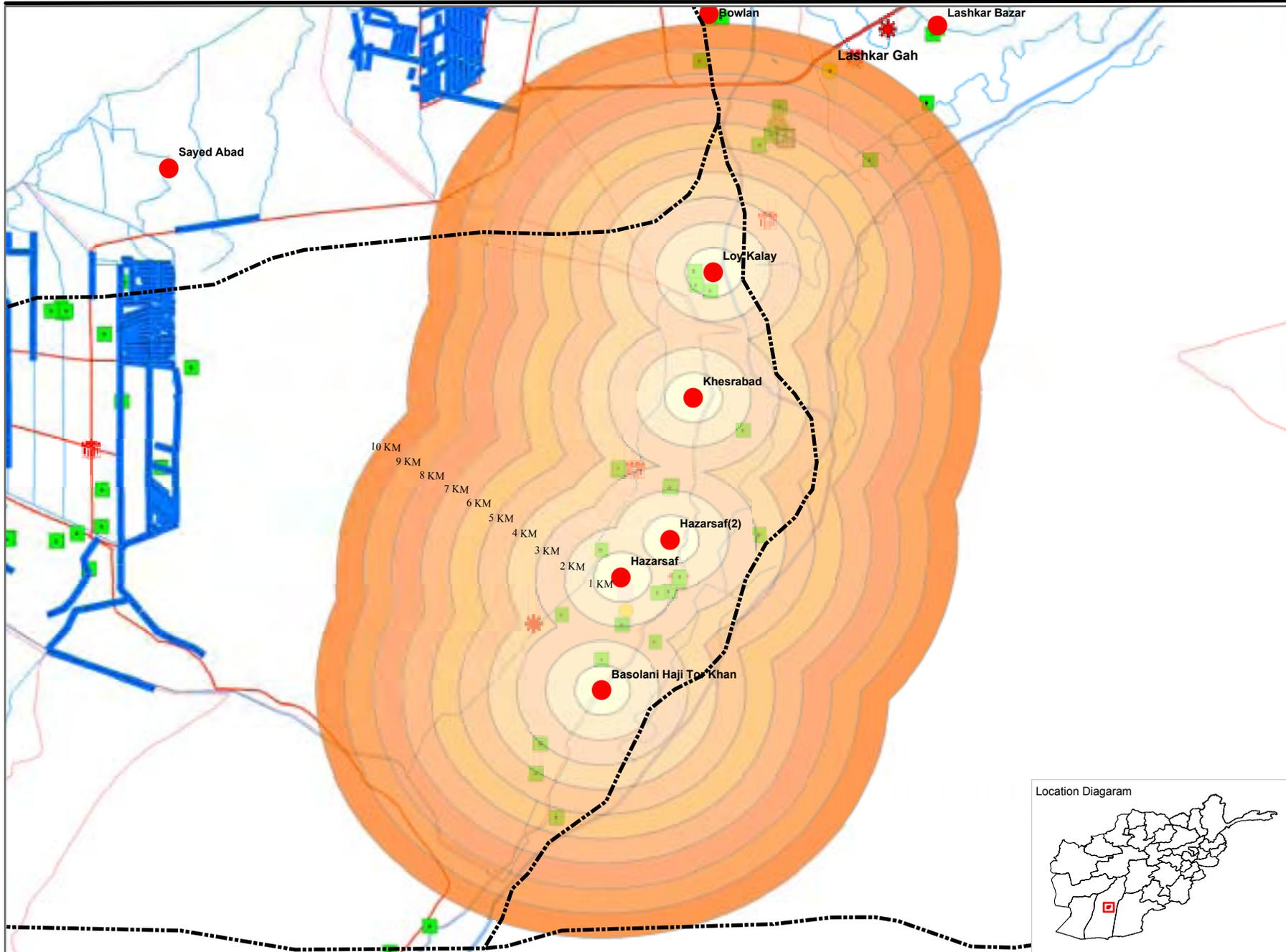
- Main
- Stream
- lakes

Catchments (1km Interval)

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- 7 - 8
- 8 - 9
- 9 - 10



PRA Villages & RAMP Activities in Naway I Barakzai District





RAMP
Revolving Agricultural Market Program

LEGEND

CENTERS

- Province
- District
- Village

RAMP ACTIVITIES

- Nursery
- ★ Village Seed Enterprise
- ▲ Protected Agriculture
- On-Farm Demonstration
- Market Center/Storage
- PRA Surveyed Villages
- Canal Rehabilitation

BOUNDARIES

- International
- Provincial
- District

ROADS

- Primary
- Secondary
- Tracks

RIVERS

- Main
- Stream
- lakes

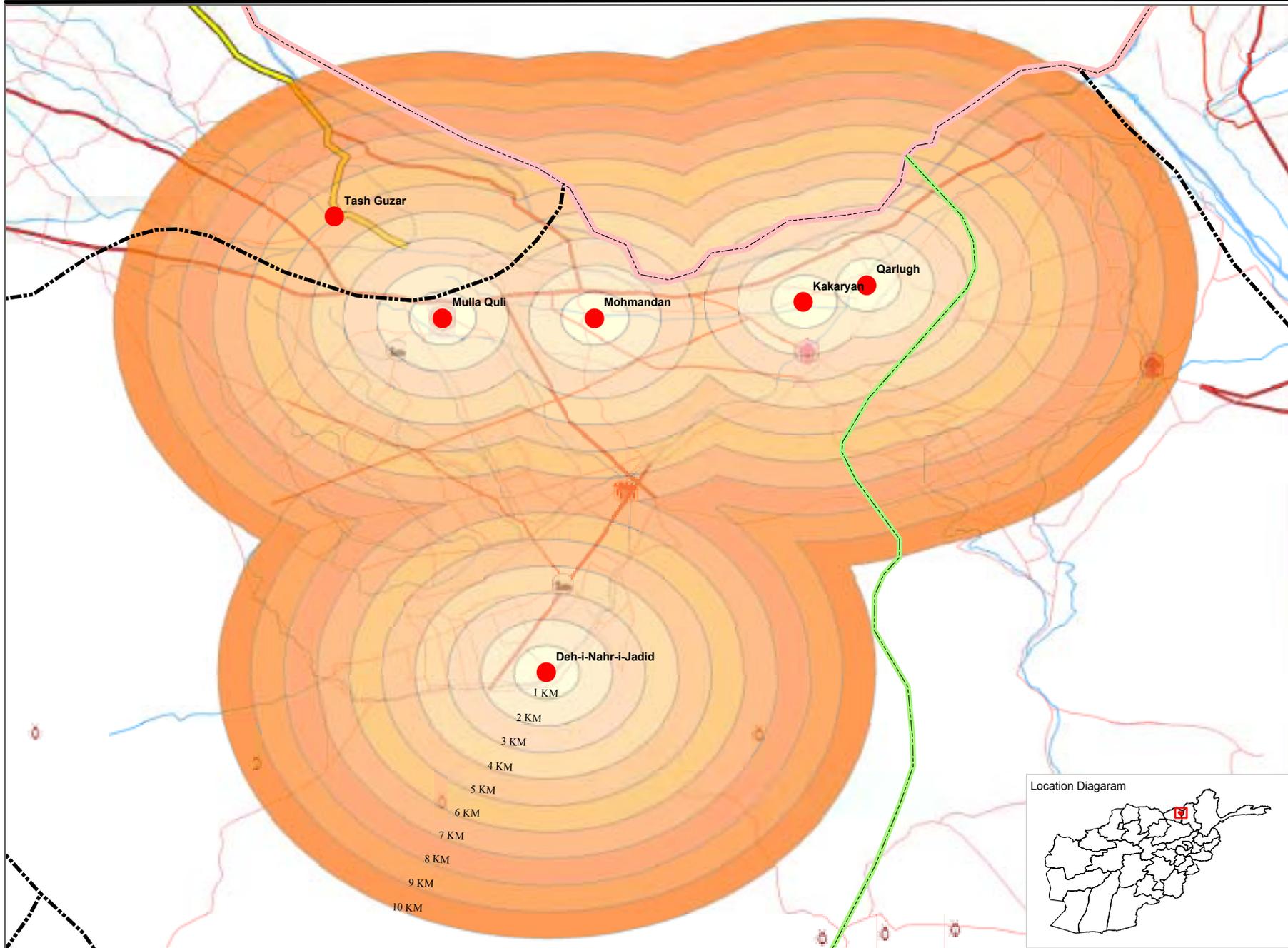
Buffer Distance in KM

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- 8 - 9
- 9 - 10



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PRA Villages & RAMP Activities in Archi District



LEGEND

CENTERS

- Province
- District
- Village

RAMP ACTIVITIES

- Veterinary Field Unit
- Locust Control
- Poultry
- On-Farm Demonstration
- Market Center/Storage
- Road Rehabilitation
- PRA Surveyed Villages

BOUNDARIES

- International
- Provincial
- District

ROADS

- Primary
- Secondary
- Tracks

RIVERS

- Main
- Stream
- lakes

Buffer Distance in KM

- 0 - 1
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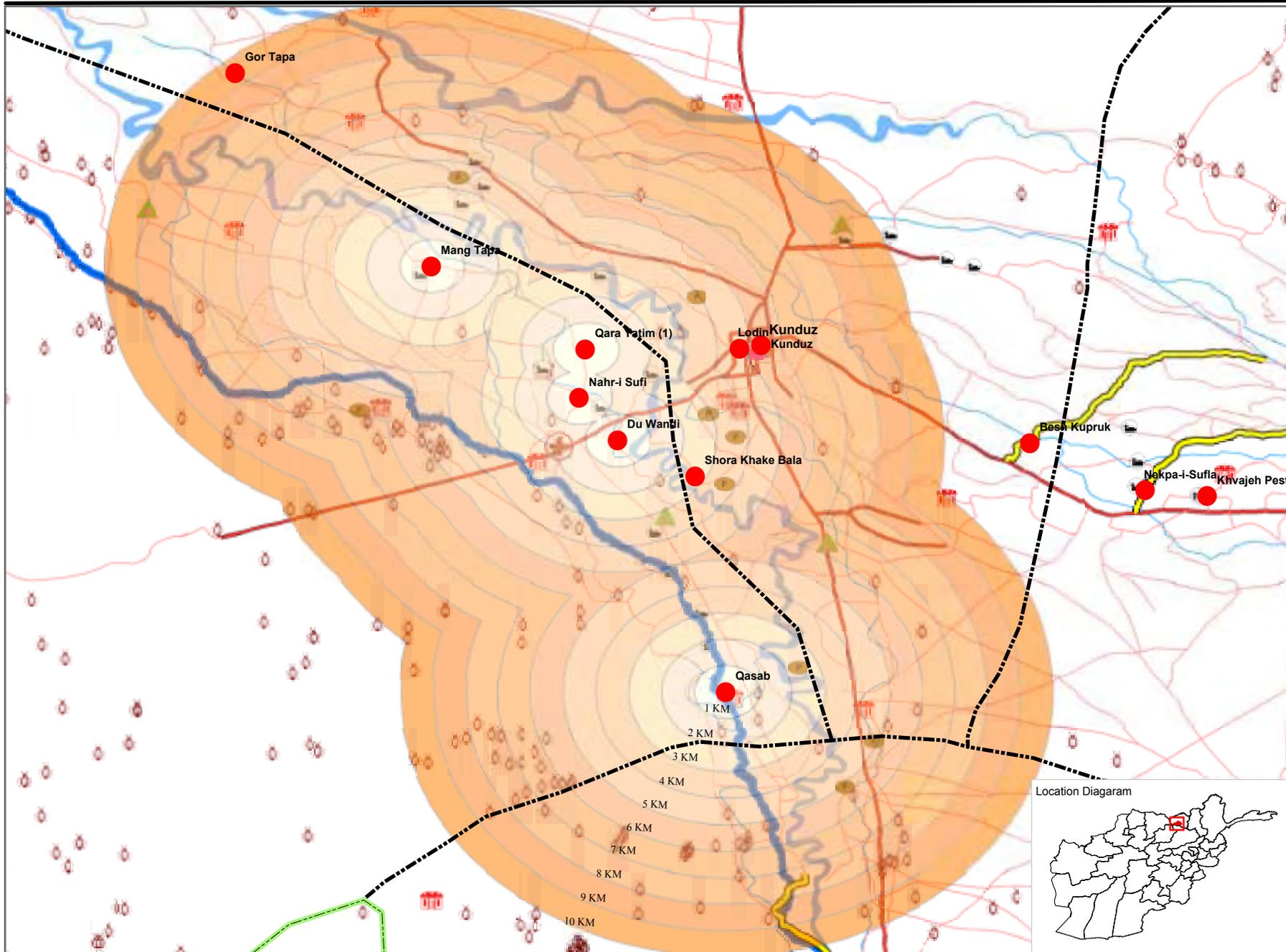


AFGHANISTAN

PRA Villages & RAMP Activities in Chahar Dara District

KUNDUZ PROVINCE

Buffer Analysis





RAMP
Rehabilitating Agricultural Markets Program

LEGEND

CENTERS

- Province
- District

RAMP ACTIVITIES

- Potato Seed Production
- Protected Agriculture
- Veterinary Field Unit
- Locust Control
- Poultry
- Market Center/Storage
- Road Rehabilitation
- Canal Rehabilitation
- PRA Surveyed Villages

BOUNDARIES

- International
- Provincial
- District

ROADS

- Primary
- Secondary
- Tracks

RIVERS

- Main
- Stream
- lakes

Buffer Distance in KM

- 0 - 1
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- 8 - 9
- 9 - 10

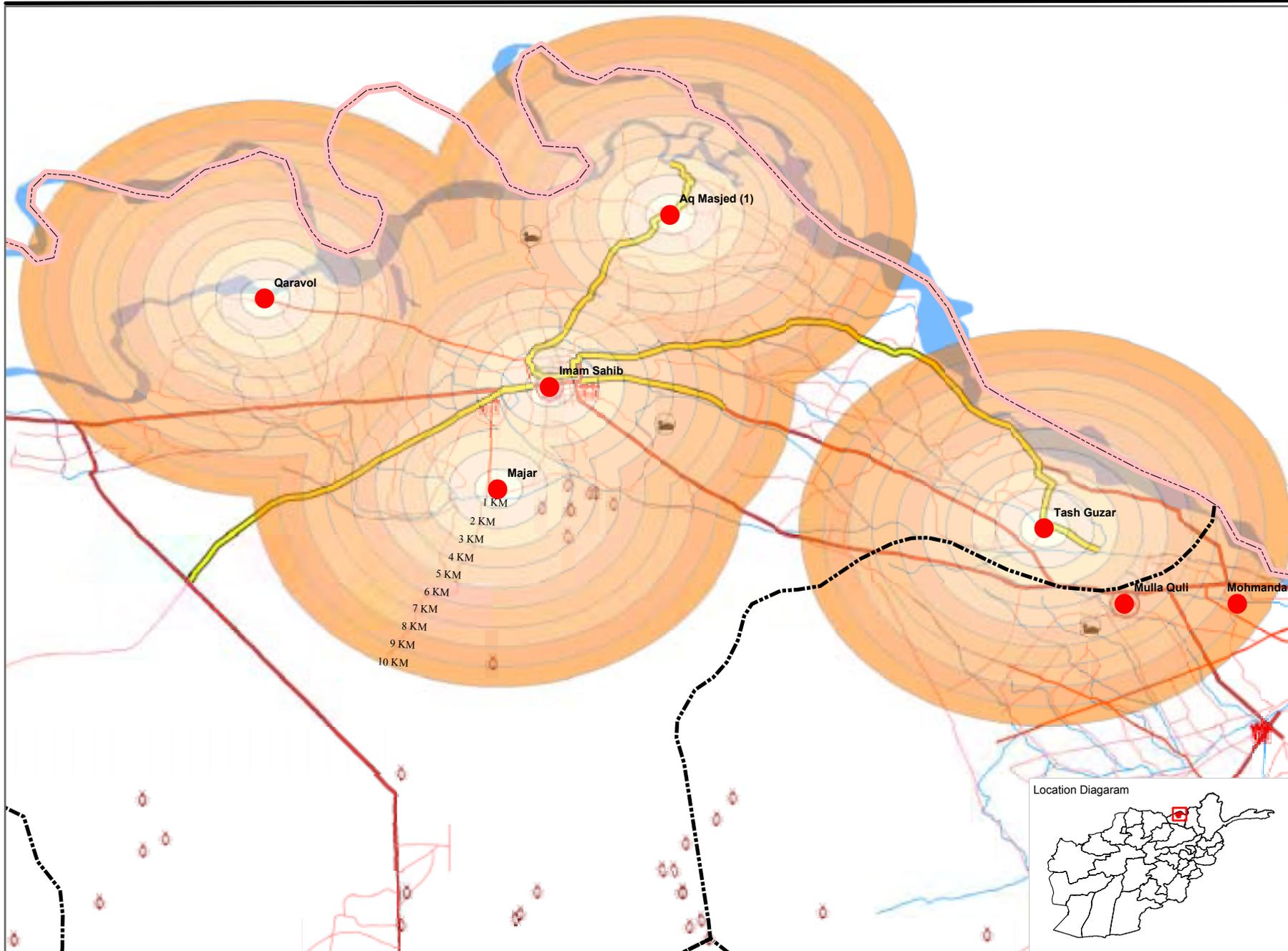
Location Diagram





USAID
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RAMP GIS Unit, April 2005

PRA Villages & RAMP Activities in Imam Sahib District





LEGEND

CENTERS

- Province
- District
- Village

RAMP ACTIVITIES

- ⊕ Veterinary Field Unit
- 🦋 Locust Control
- 🐔 Poultry
- 🏠 Market Center/Storage
- 🛣️ Road Rehabilitation
- PRA Surveyed Villages

BOUNDARIES

- International
- Provincial
- District

ROADS

- Primary
- Secondary
- Tracks

RIVERS

- Main
- Stream
- lakes

Buffer Distance in KM

- 0 - 1
- 1 - 2
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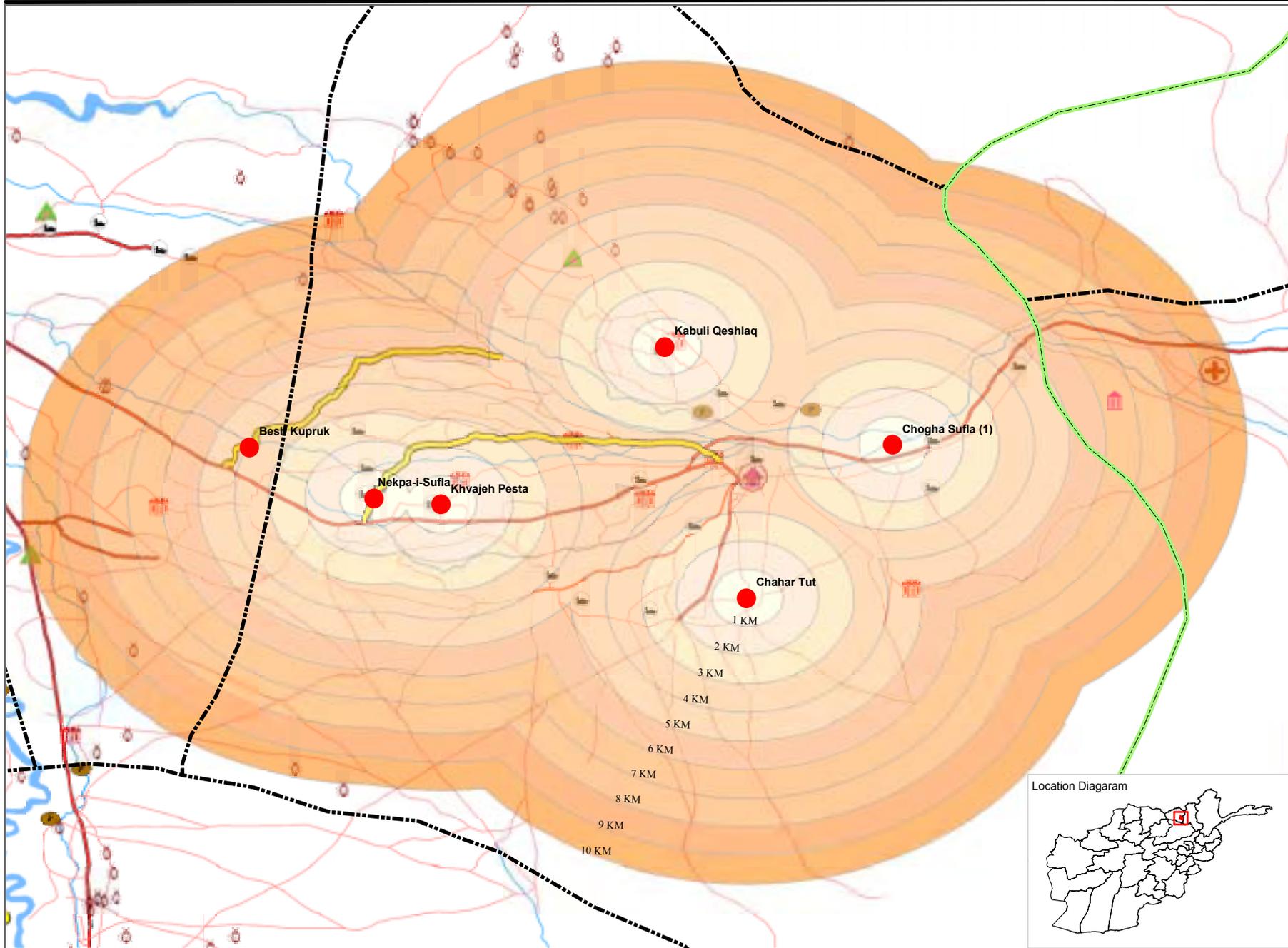
Location Diagram





RAMP GIS Unit, April 2005

PRA Villages & RAMP Activities in Khan Abad District





RAMP
Rehabilitating Agricultural Markets Program

LEGEND

CENTERS

- Province (Yellow circle)
- District (Yellow circle)

RAMP ACTIVITIES

- Potato Seed Production (Brown circle)
- Protected Agriculture (Green triangle)
- Veterinary Field Unit (Red cross)
- Locust Control (Red circle with insect)
- Poultry (Black circle with chicken)
- Microfinance Institutions (Pink house)
- Market Center/Storage (Red building)
- Road Rehabilitation (Yellow line)
- PRA Surveyed Villages (Red dot)

BOUNDARIES

- International (Dashed red line)
- Provincial (Dashed green line)
- District (Dashed black line)

ROADS

- Primary (Red line)
- Secondary (Orange line)
- Tracks (Black line)

RIVERS

- Main (Blue line)
- Stream (Light blue line)
- lakes (Light blue area)

Buffer Distance in KM

- 0 - 1
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Location Diagram





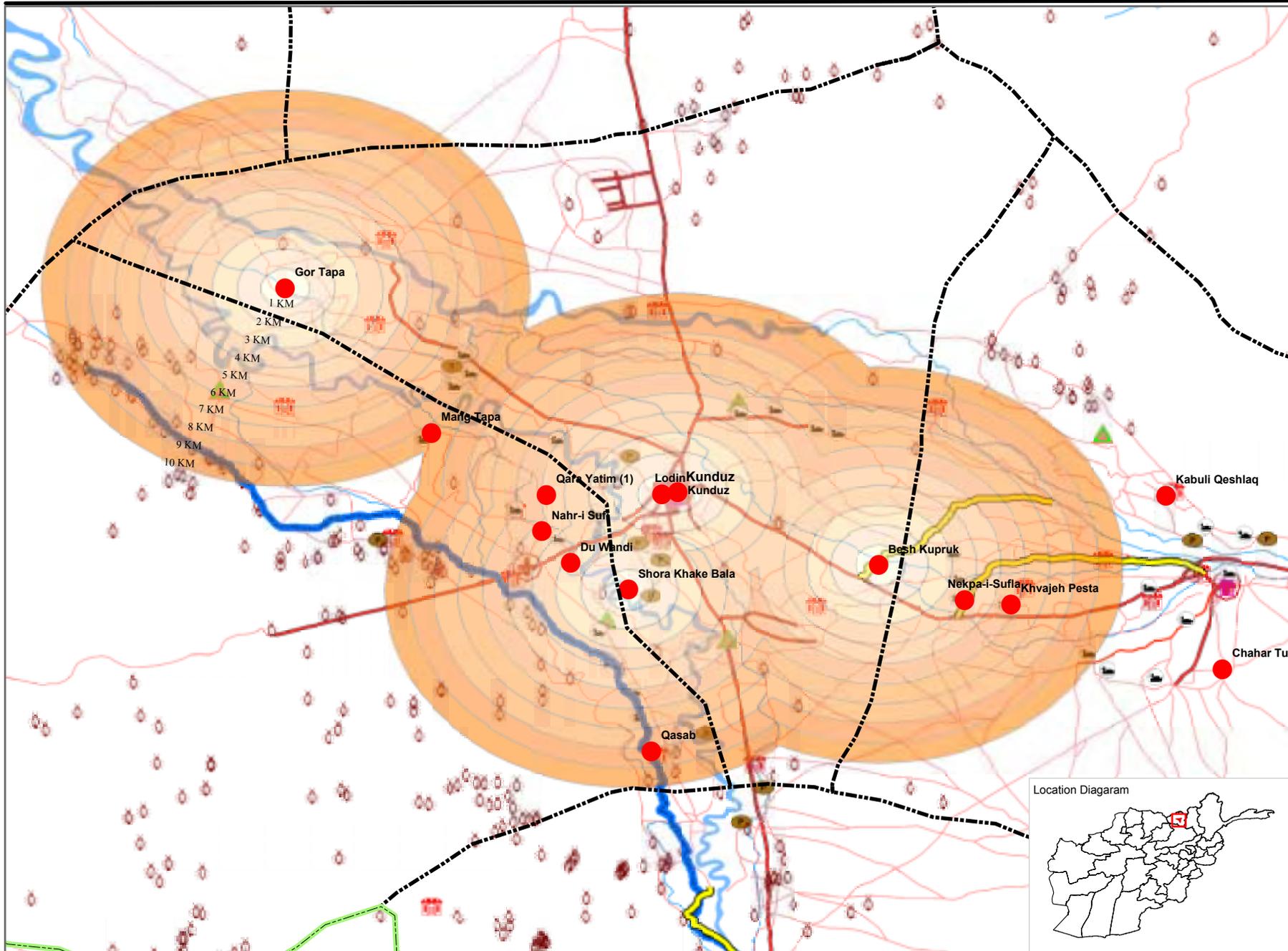
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RAMP GIS Unit, April 2005

AFGHANISTAN

PRA Villages & RAMP Activities in Kunduz District

KUNDUZ PROVINCE

Buffer Analysis



LEGEND

CENTERS

- Province
- District

RAMP ACTIVITIES

- Potato Seed Production
- Protected Agriculture
- Veterinary Field Unit
- Locust Control
- Poultry
- Market Center/Storage
- Road Rehabilitation
- Canal Rehabilitation
- PRA Surveyed Villages

BOUNDARIES

- International
- Provincial
- District

ROADS

- Primary
- Secondary
- Tracks

RIVERS

- Main
- Stream
- lakes

Buffer Distance in KM

- 0 - 1
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- 3 - 4
- 4 - 5
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- 7 - 8
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- 9 - 10



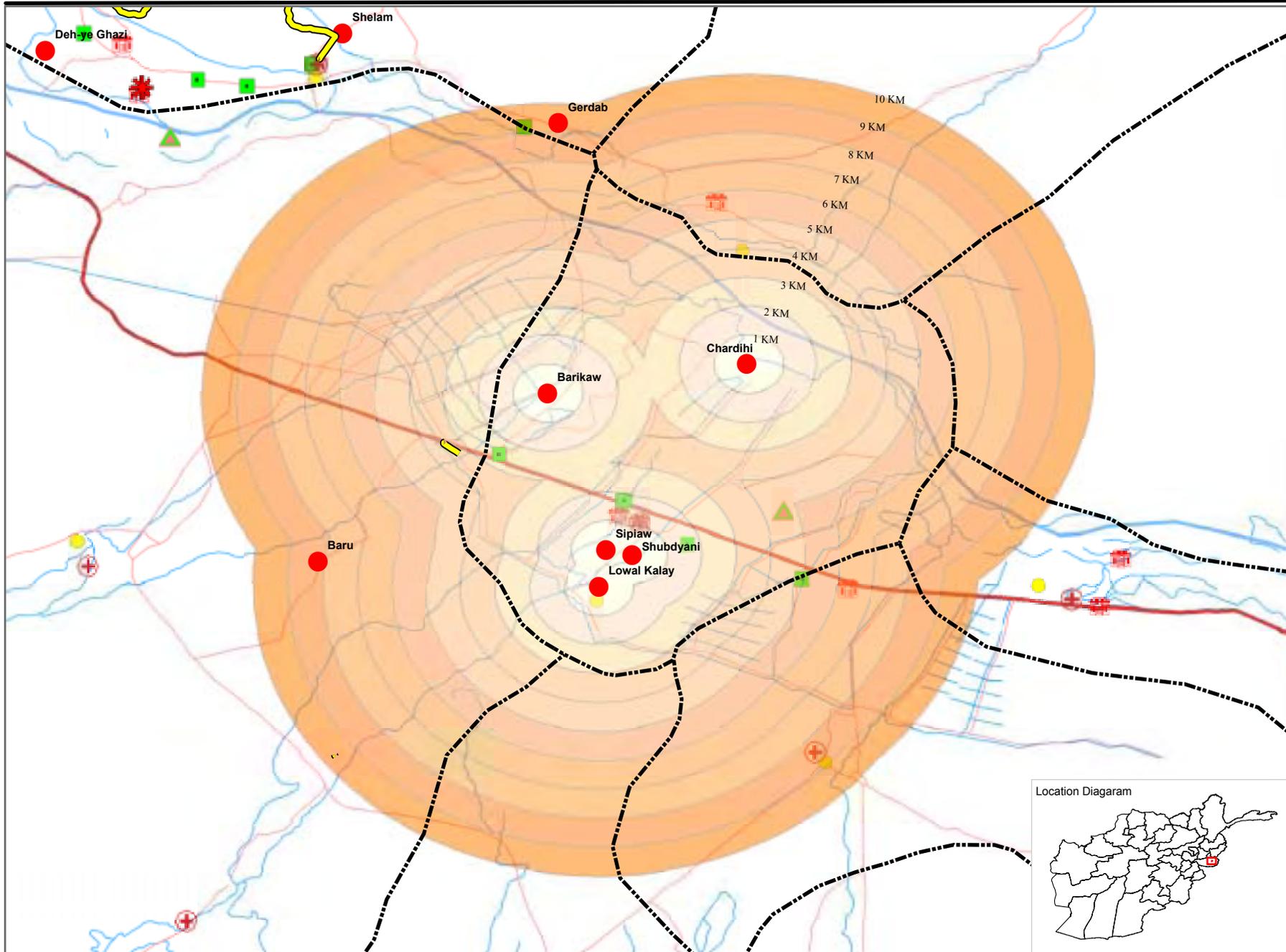
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RAMP GIS Unit, April 2005

AFGHANISTAN

PRA Villages & RAMP Activities in Bati Kot District

NANGARHAR PROVINCE

Buffer Analysis





RAMP
Rural Agricultural Market Program

LEGEND

CENTERS

- Province
- District
- Village

RAMP ACTIVITIES

- Poultry
- Veterinary Field Unit
- Village Seed Enterprise
- Protected Agriculture
- On-Farm Demonstration
- Market Center/Storage
- PRA Surveyed Villages

BOUNDARIES

- Road Rehabilitation
- International
- Provincial
- District

ROADS

- Primary
- Secondary
- Tracks

RIVERS

- Main
- Stream
- lakes

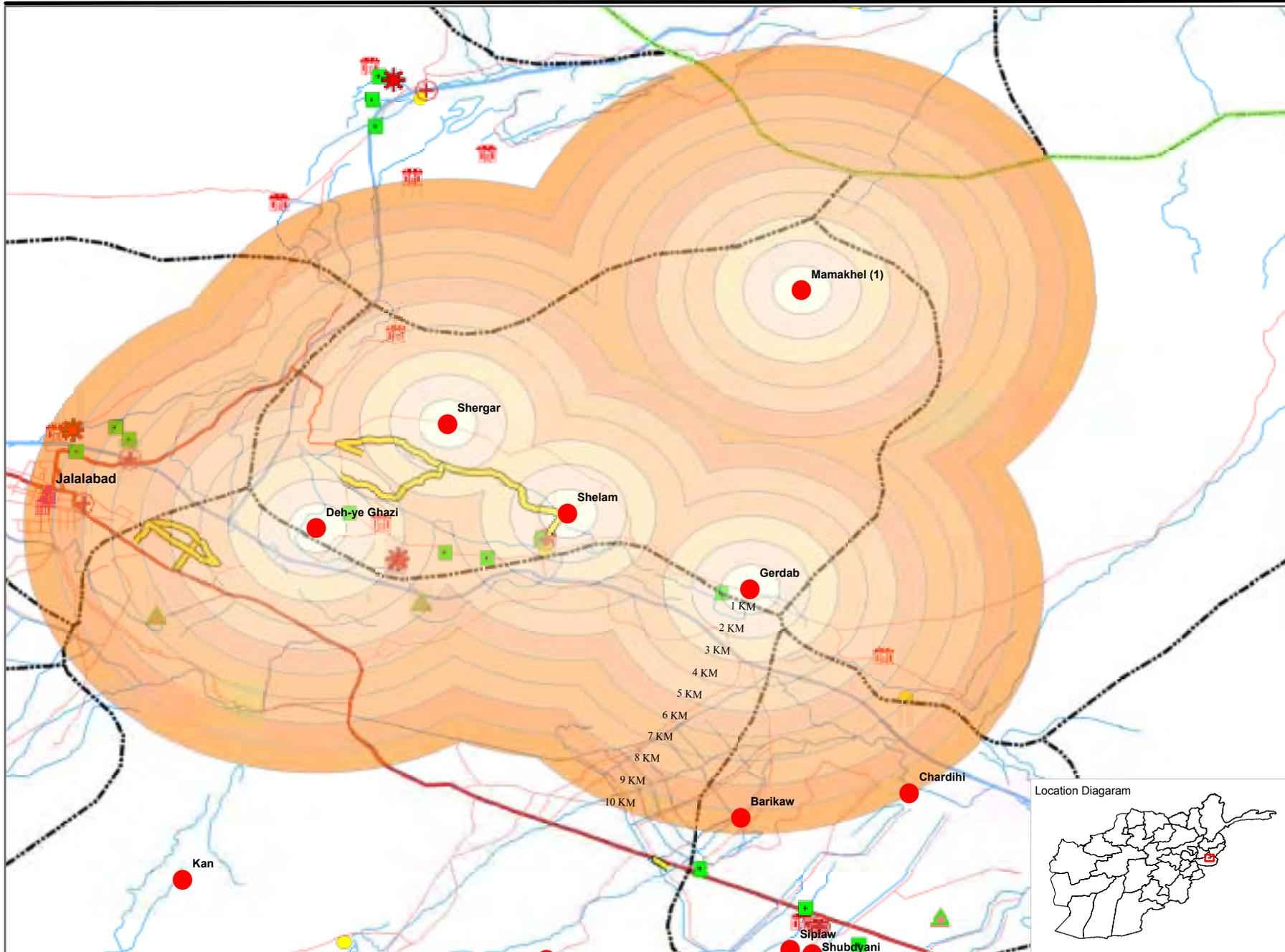
Buffer Distance in KM

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PRA Villages & RAMP Activities in Kama District





LEGEND

CENTERS

- Province
- District
- Village

RAMP ACTIVITIES

- 🐔 Poultry
- ⊕ Veterinary Field Unit
- ✳ Village Seed Enterprise
- ▲ Protected Agriculture
- On-Farm Demonstration
- 🏠 Market Center/Storage
- PRA Surveyed Villages

ROAD REHABILITATION

- Road Rehabilitation

BOUNDARIES

- International
- Provincial
- District

ROADS

- Primary
- Secondary
- Tracks

RIVERS

- Main
- Stream
- lakes

Buffer Distance in KM

- 0 - 1
- 1 - 2
- 2 - 3
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Location Diagram



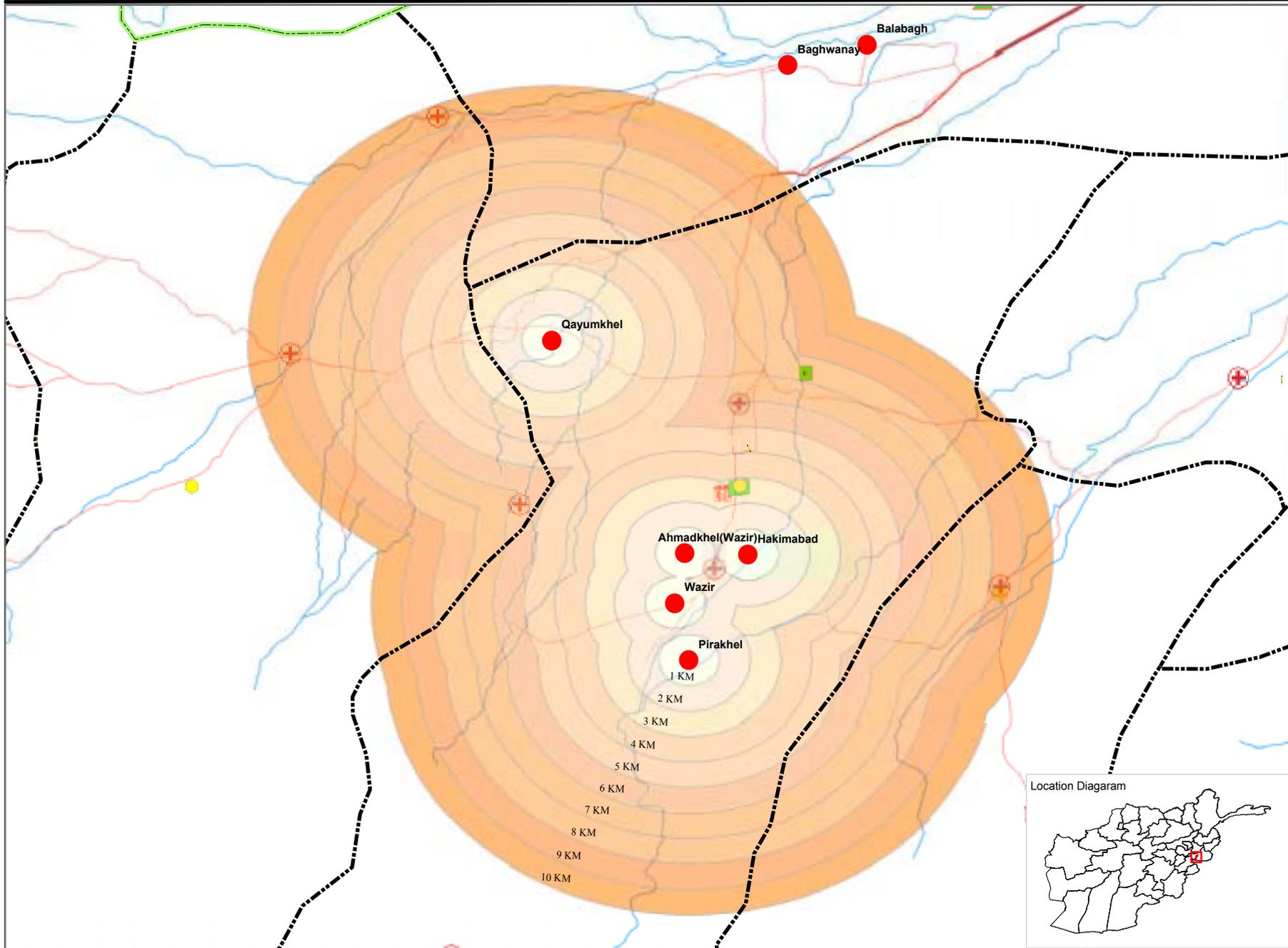


RAMP GIS Unit, April 2005

PRA Villages & RAMP Activities in Khogyani District

NANGARHAR PROVINCE

Buffer Analysis





LEGEND

CENTERS

- Province
- District
- Village

RAMP ACTIVITIES

- ⊕ Veterinary Field Unit
- * Village Seed Enterprise
- ▲ Protected Agriculture
- On-Farm Demonstration
- 🏠 Market Center/Storage
- PRA Surveyed Villages

BOUNDARIES

- International
- Provincial
- - - District

ROADS

- Primary
- Secondary
- Tracks

RIVERS

- Main
- Stream
- lakes

Buffer Distance in KM

- 0 - 1
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- 3 - 4
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- 5 - 6
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- 7 - 8
- 8 - 9
- 9 - 10



Location Diagram

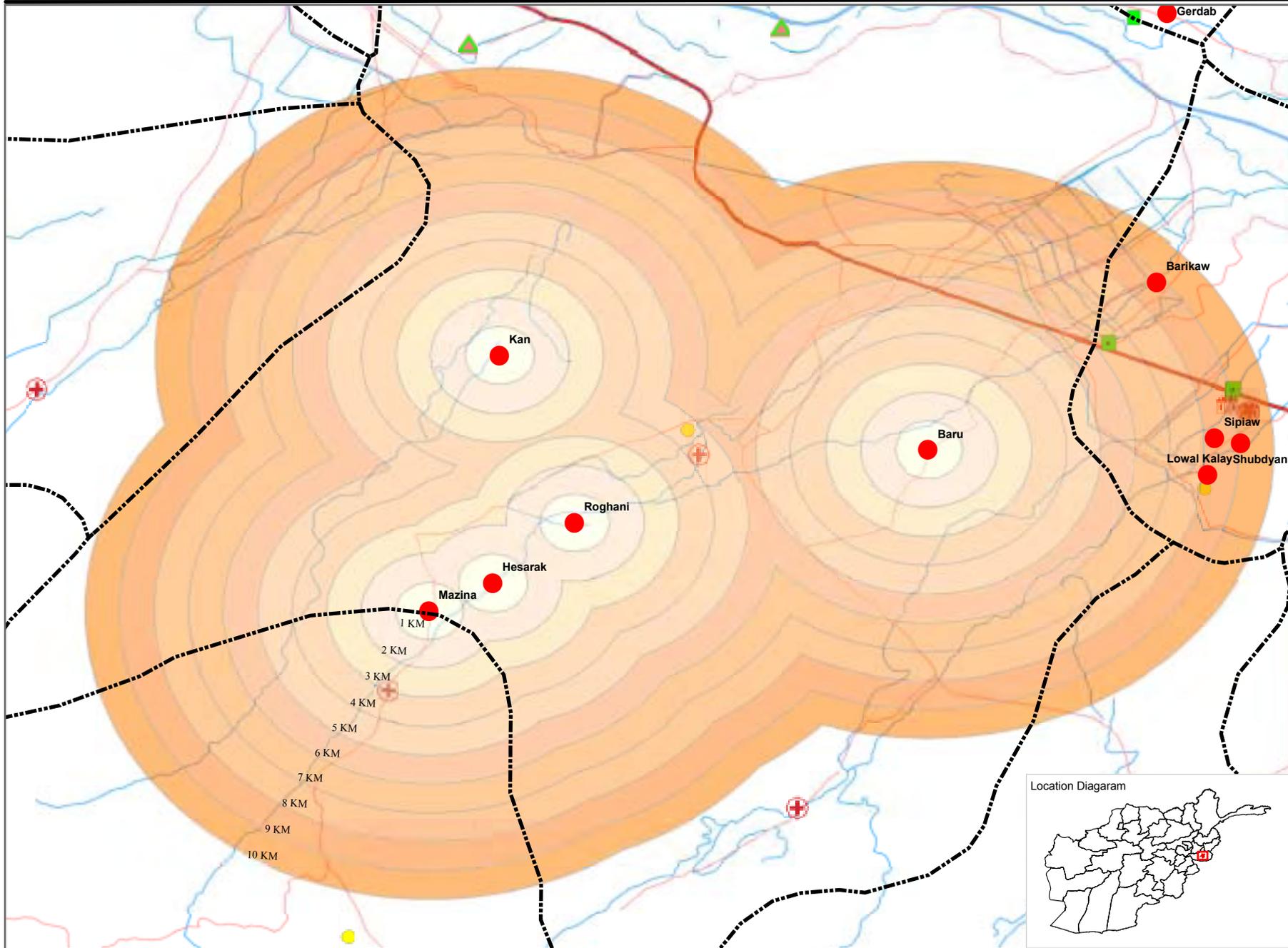


RAMP GIS Unit, April 2005

AFGHANISTAN PRA Villages & RAMP Activities in Rodat District

NANGARHAR PROVINCE

Buffer Analysis



LEGEND

CENTERS

- Province (Yellow circle)
- District (Yellow circle)
- Village (Black dot)

RAMP ACTIVITIES

- Veterinary Field Unit (Red cross)
- Protected Agriculture (Green triangle)
- On-Farm Demonstration (Green square)
- Market Center/Storage (Red building)
- PRA Surveyed Villages (Red circle)

BOUNDARIES

- International (Dashed red line)
- Provincial (Dashed green line)
- District (Dashed black line)

ROADS

- Primary (Solid red line)
- Secondary (Solid orange line)
- Tracks (Dashed black line)

RIVERS

- Main (Blue line)
- Stream (Light blue line)
- lakes (Light blue area)

Buffer Distance in KM

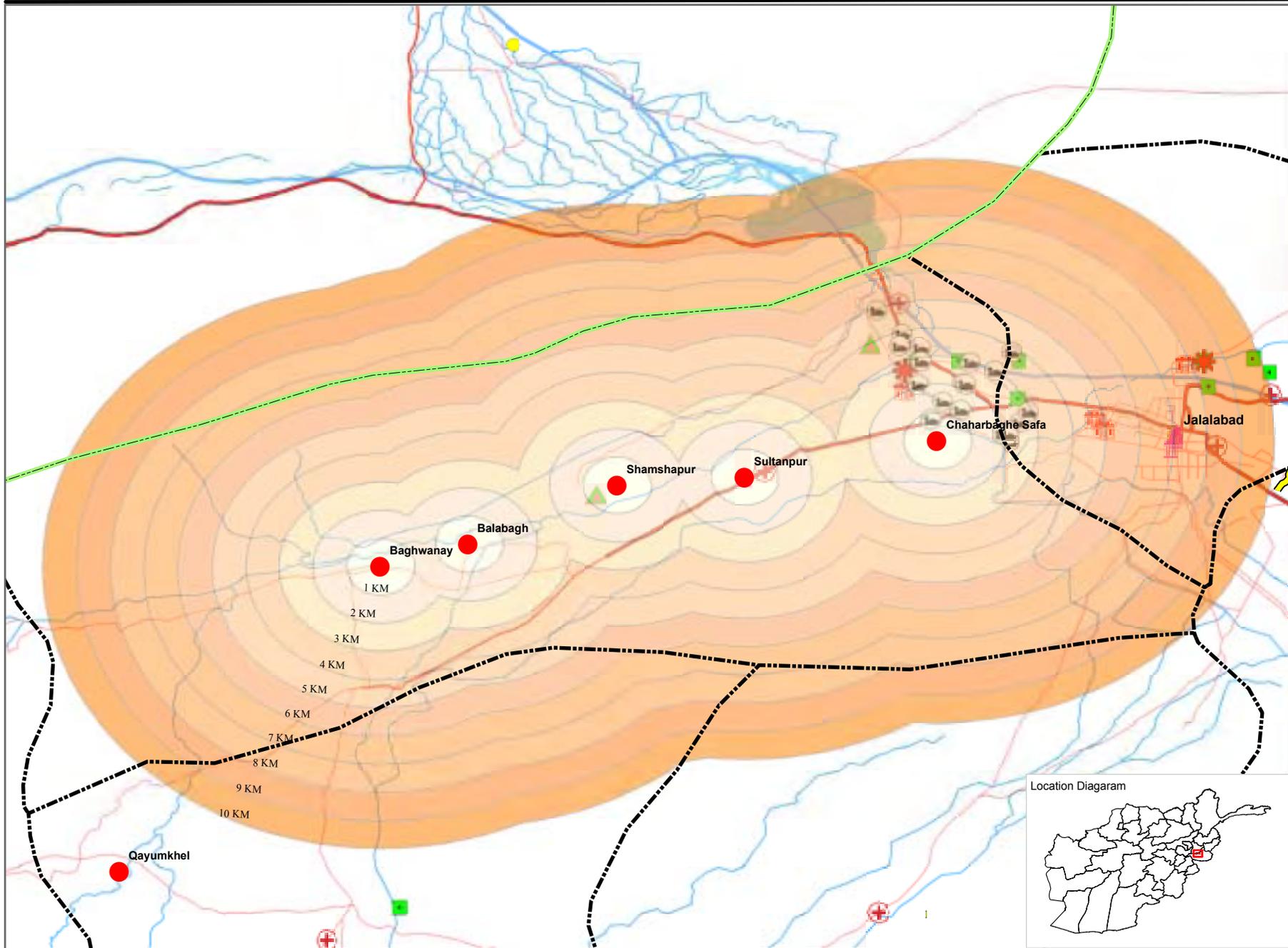
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- 9 - 10



PRA Villages & RAMP Activities in Surkh Rod District

NANGARHAR PROVINCE

Buffer Analysis



LEGEND

CENTERS

- Province (Yellow circle)
- District (Yellow circle)
- Village (Black dot)

RAMP ACTIVITIES

- Poultry (Chicken icon)
- Veterinary Field Unit (Cross icon)
- Village Seed Enterprise (Star icon)
- Protected Agriculture (Triangle icon)
- On-Farm Demonstration (Square icon)
- Market Center/Storage (House icon)
- PRA Surveyed Villages (Red dot)
- Microfinance Institutions (Dollar sign icon)

BOUNDARIES

- International (Dashed line)
- Provincial (Green dashed line)
- District (Black dash-dot line)

ROADS

- Primary (Thick red line)
- Secondary (Thin red line)
- Tracks (Dotted line)

RIVERS

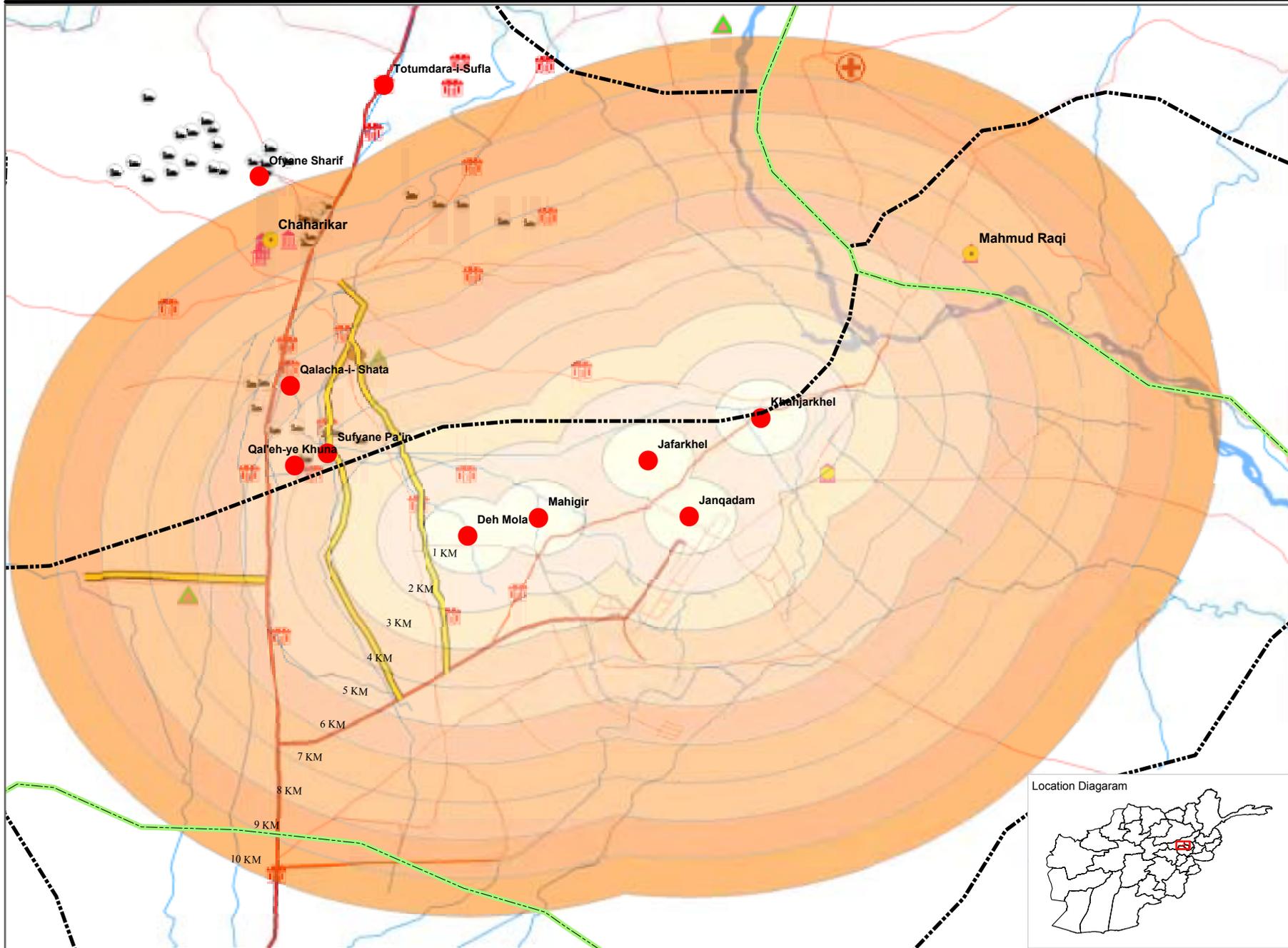
- Main (Blue line)
- Stream (Thin blue line)
- lakes (Blue area)

Buffer Distance in KM

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- 6 - 7
- 7 - 8
- 8 - 9
- 9 - 10



PRA Villages & RAMP Activities in Bagram District



LEGEND

CENTERS

- Province (Yellow circle)
- District (Yellow circle)

RAMP ACTIVITIES

- Protected Agriculture (Green triangle)
- Veterinary Field Unit (Red cross)
- Poultry (Chicken icon)
- Microfinance Institutions (Pink building icon)
- Market Center/Storage (Red building icon)
- Road Rehabilitation (Yellow line)
- PRA Surveyed Villages (Red dot)

BOUNDARIES

- International (Dashed black line)
- Provincial (Green dashed line)
- District (Black dashed line)

ROADS

- Primary (Red line)
- Secondary (Orange line)
- Tracks (Thin red line)

RIVERS

- Main (Blue line)
- Stream (Light blue line)
- lakes (Light blue area)

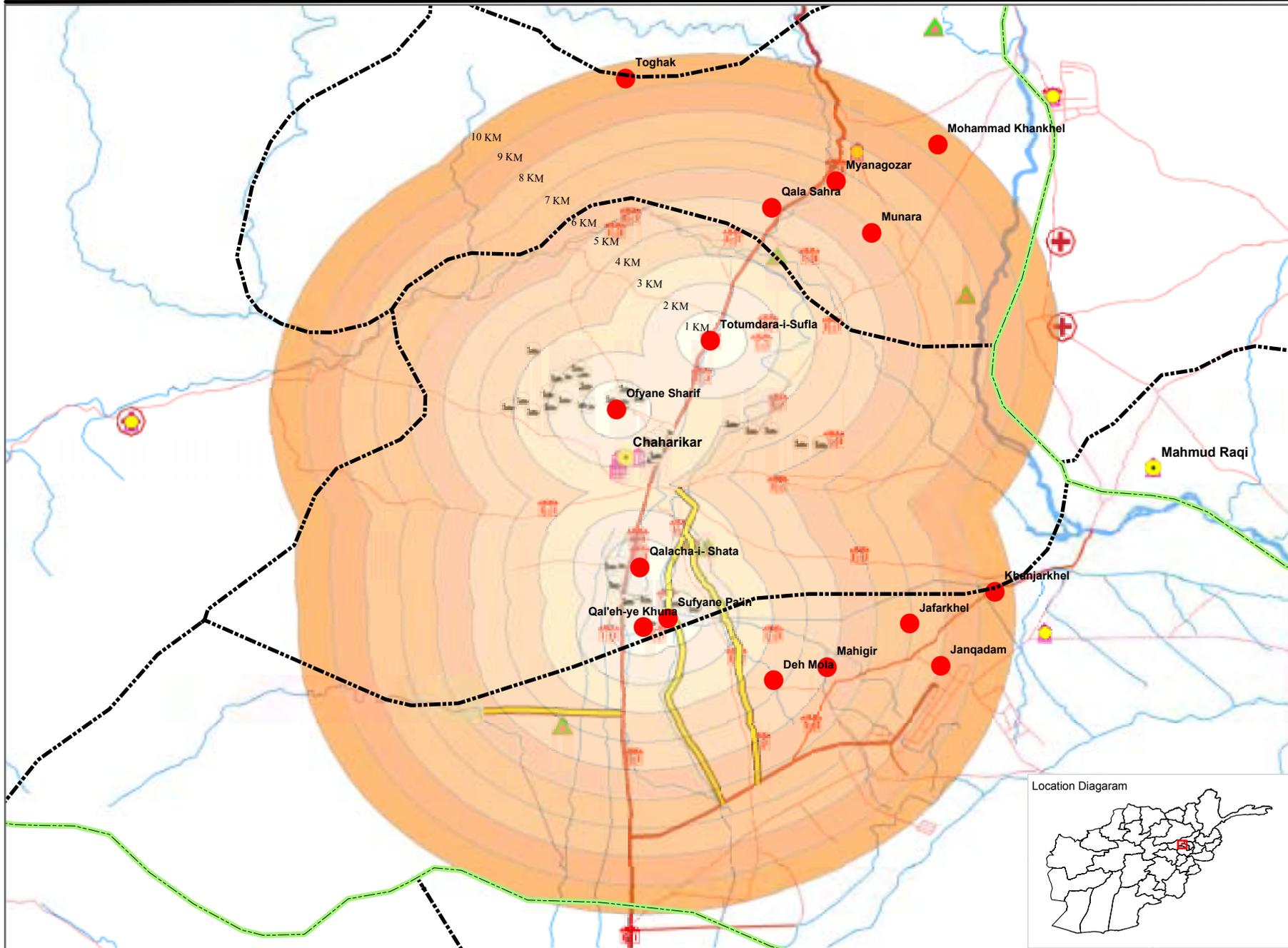
Buffer Distance in KM

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- 9 - 10



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PRA Villages & RAMP Activities in Chaharikar District



LEGEND

CENTERS

- Province (Yellow circle)
- District (Yellow circle with black border)

RAMP ACTIVITIES

- Potato Seed Production (Brown circle)
- Protected Agriculture (Green triangle)
- Veterinary Field Unit (Red cross)
- Poultry (Black chicken icon)
- Microfinance Institutions (Pink building icon)
- Market Center/Storage (Red building icon)
- Road Rehabilitation (Yellow line)
- PRA Surveyed Villages (Red dot)

BOUNDARIES

- International (Dashed black line)
- Provincial (Green dashed line)
- District (Black dashed line)

ROADS

- Primary (Red line)
- Secondary (Orange line)
- Tracks (Black dashed line)

RIVERS

- Main (Blue line)
- Stream (Light blue line)
- lakes (Light blue area)

Buffer Distance in KM

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- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
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- 6 - 7
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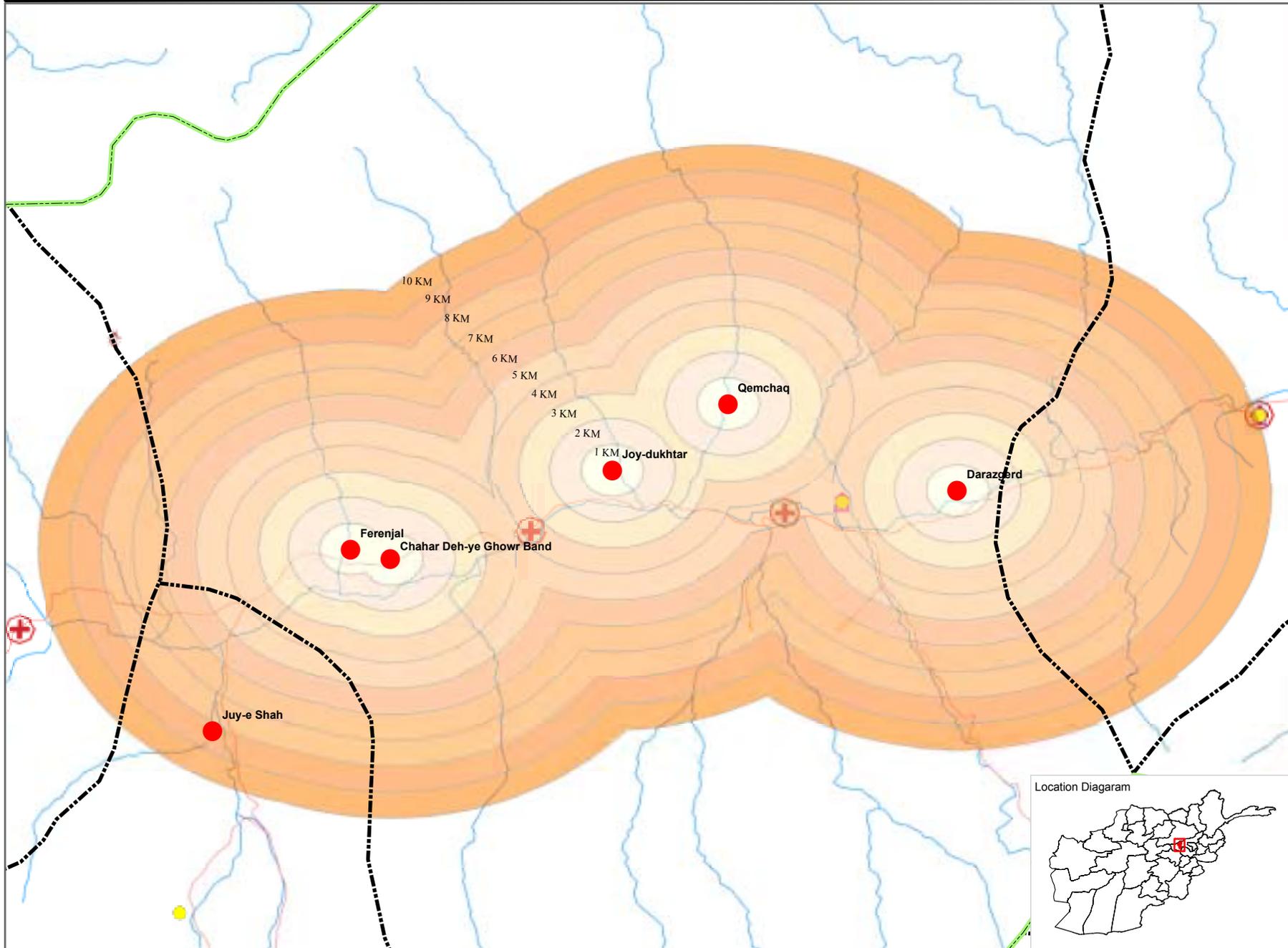


AFGHANISTAN

PRA Villages & RAMP Activities in Ghorband District

PARWAN PROVINCE

Buffer Analysis



LEGEND

CENTERS

- Province
- District

RAMP ACTIVITIES

- Veterinary Field Unit
- Microfinance Institutions
- PRA Surveyed Villages

BOUNDARIES

- International
- Provincial
- District

ROADS

- Primary
- Secondary
- Tracks

RIVERS

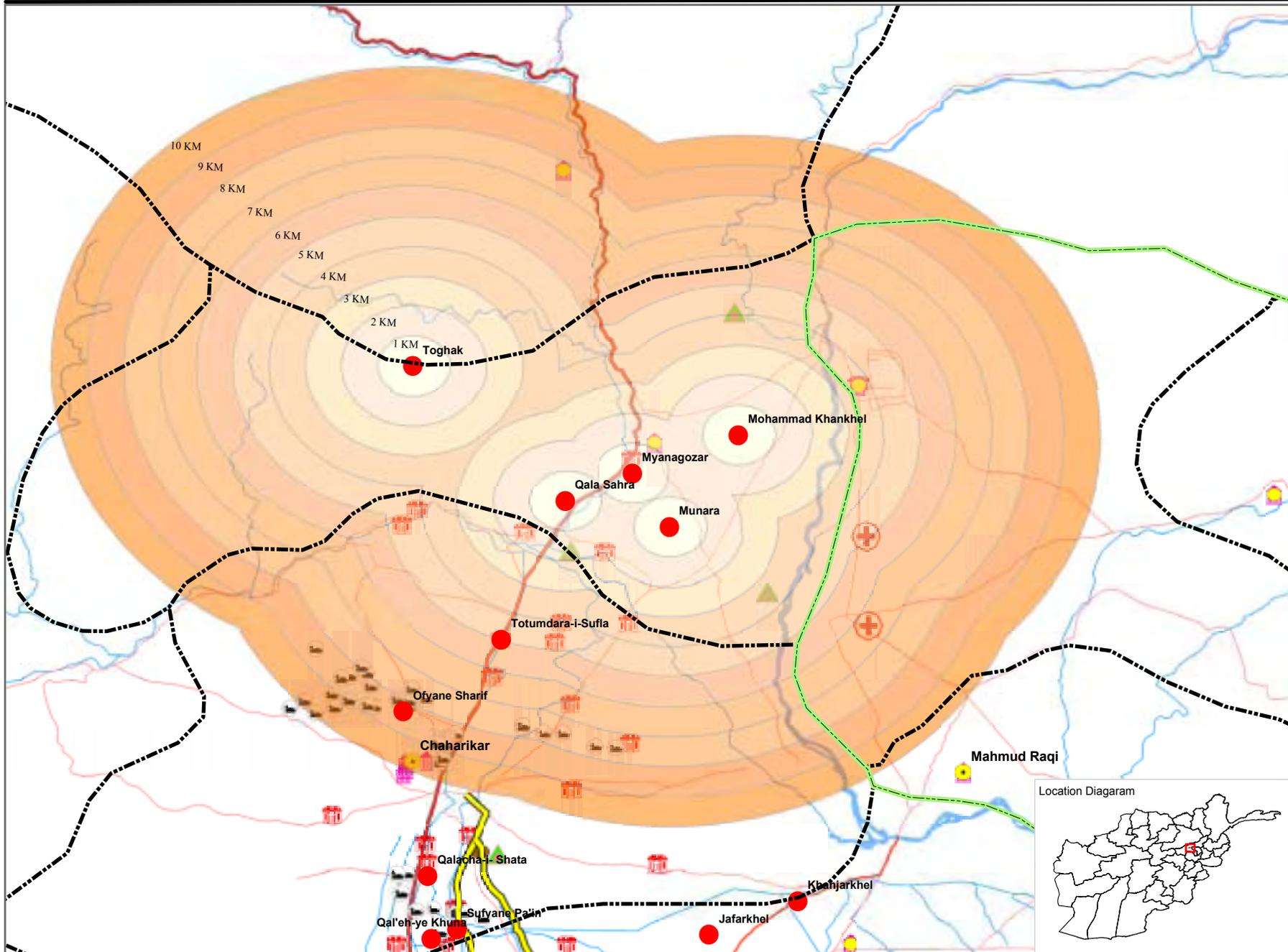
- Main
- Stream
- lakes

Buffer Distance in KM

- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 6
- 6 - 7
- 7 - 8
- 8 - 9
- 9 - 10



PRA Villages & RAMP Activities in Jabalussaraj District



LEGEND

CENTERS

- Province (Yellow circle)
- District (Yellow circle)

RAMP ACTIVITIES

- Protected Agriculture (Green triangle)
- Veterinary Field Unit (Red cross)
- Poultry (Black chicken icon)
- Microfinance Institutions (Pink building icon)
- Market Center/Storage (Red building icon)
- Road Rehabilitation (Yellow road icon)
- PRA Surveyed Villages (Red dot)

BOUNDARIES

- International (Red dashed line)
- Provincial (Green dashed line)
- District (Black dashed line)

ROADS

- Primary (Red solid line)
- Secondary (Orange solid line)
- Tracks (Black solid line)

RIVERS

- Main (Blue solid line)
- Stream (Light blue solid line)
- lakes (Light blue solid area)

Buffer Distance in KM

- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 6
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- 9 - 10

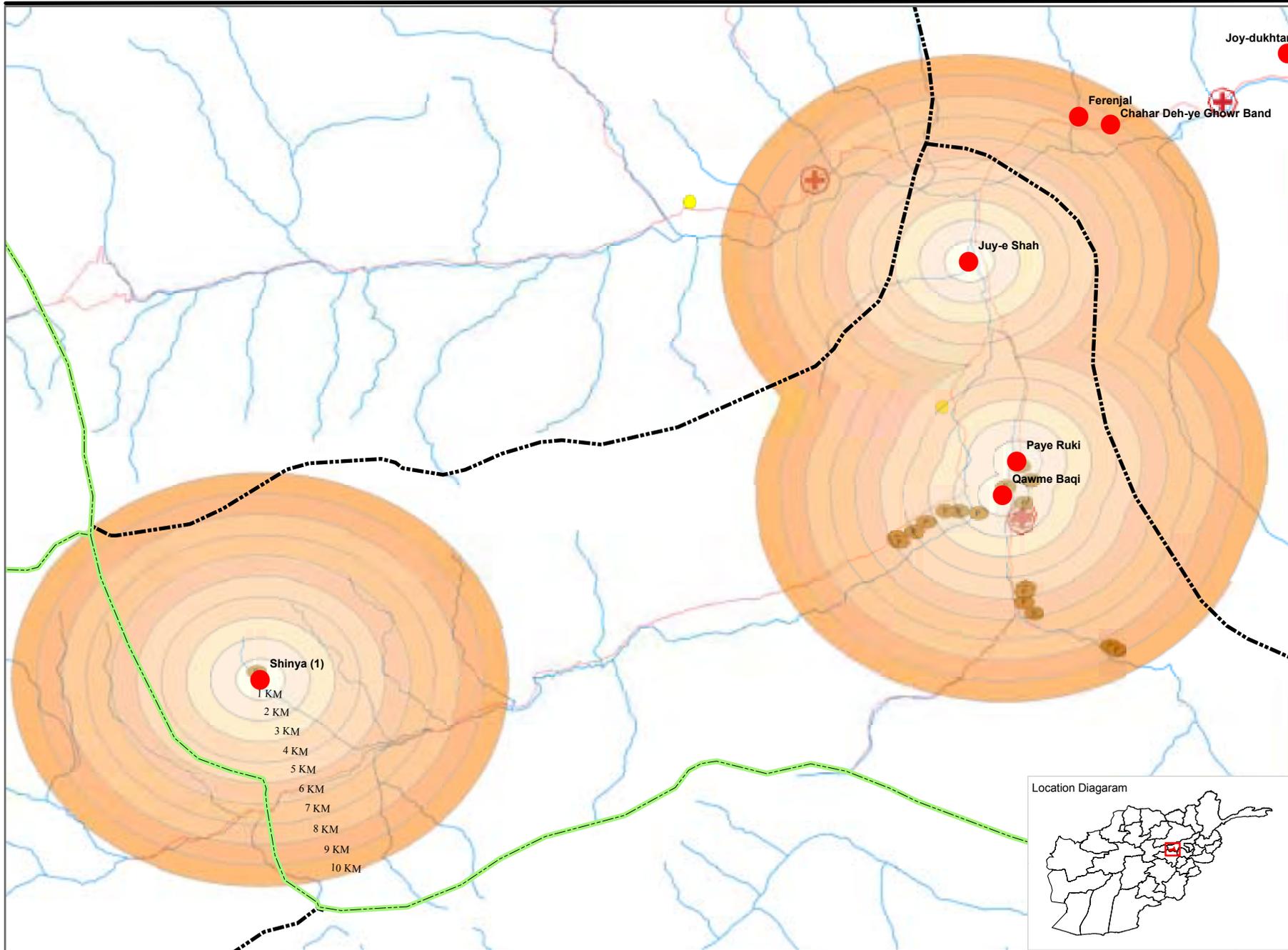


AFGHANISTAN

PRA Villages & RAMP Activities in Surkhi Parsa District

PARWAN PROVINCE

Buffer Analysis





LEGEND

CENTERS

- Province
- District

RAMP ACTIVITIES

- ⊕ Veterinary Field Unit
- Potato Seed Production
- PRA Surveyed Villages

BOUNDARIES

- International
- Provincial
- District

ROADS

- Primary
- Secondary
- Tracks

RIVERS

- Main
- Stream
- lakes

Buffer Distance in KM

- 0 - 1
- 1 - 2
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Location Diagram





Annex 2

Farmers' Perception, a Synopsis

Kunduz Province

1. Imam Sabi District: Outbreak of locust, lack of seed and fertilizer in the district at large (fertilizer imported from Turkmenistan is of poor quality and in most cases there was not even a bag of DAP in the district centre at the time of the survey) coupled with shortage of irrigation water caused a significant fall in output. Maize and wheat yields have fallen due to input constraints and late planting, and in some villages like Nahre Sharwan the destruction caused to the intake has diminished the irrigation potential. Yields of legumes and cotton have generally declined. Mulberry trees are never grafted and trees are valued for their shed rather than fruit output. Melon output was also down due to aphid infestation.

In some villages like Aq Masjid carpet weaving supplements agriculture income, but this caused conflict in labor allocation. Almond trees of 20-30 trees per jerib are inter-planted with wheat and other grains in an effort to maximize aggregate return. Farmers demanded support in plant protection measures and extension advice to control diseases and pests.

2. Chahar Dara District: Fertilizers are of poor quality and there are not many dealers in the district. Intakes and streams are operated sub-optimally, and poor and seasonal village to market roads as well as lack of efficient marketing outlets for agricultural products reduce net returns to farmers. The rice variety has long degenerated and propagation of improved rice and wheat variety has also ceased causing a fall in agriculture production. Outbreak of plants diseases such as smut, rust and aphid has significantly affected agriculture production especially in Dur Wandu village. Outbreak of aphid has caused a massive fall in melon production. Interestingly, farmers in Dur Wandu also suggested that while they are happy to substitute poppy cultivation with cotton and wheat, prices of cotton and wheat are falling every season and they are discouraged by this trend. The government run Spinzar gin in Kunduz this year paid low prices, about Afs119 per seer (7kg), but this was not good enough even to cover production costs. Farmers felt that the formation of agricultural associations or agricultural cooperatives and an organized effort to prevent locusts will go some way in helping them to increase agriculture output.

3. Archi District: Plant and animal pests and diseases such as smut, aphid, and foot and mouth disease are burgeoning problems in the district. The drought is also persisting, reducing the water table for irrigation. In some villages like Mulla Quli the average farmer cultivates a small plot because the irrigation systems operate sub-optimally due to the damage they sustained and improved seeds and fertilizer cost much higher than the previous year.

Orchards have yet to recover to their prewar level. Interestingly, farmers in certain villages like Mohmandan, Karygan and Qarlugh did not plant poppy this year. They reasoned that because of low poppy prices last year and the campaign by the government and religious leaders the land this season was allocated to grow licit crops. There was some poppy planted in Mulla Quli villages but it was on a small area. Farmers here supplement income from carpet weaving.

4. Kunduz District: The crop cycle is wheat in the first season followed by rice in second season and in some places they also grow melon, onions and okra. Kunduz is a high potential district, but due to the destruction of dams and canals the acreage cultivated is down and crop output has fallen. In Besh Kupruk village for example, the irrigation structure that use to irrigate about 500 Jeribs land has been destroyed and the land is fallowed. Agriculture output was also down due to attack by aphid, diseases and pests and high fertilizer prices. Cotton and maize are widely cropped, but prices are low and this has been a disincentive to farmers to increase agriculture production. Wheat has lost its potential and yields are falling. Much of the output is either sold locally or transported on beast of burden. Culverts and roads have been damaged, and vehicles hardly venture into certain villages. Agriculture is no longer an attractive activity to the young who are compelled to leave villages for neighboring countries such Iran and Pakistan. In Gor Tapa village poppy was planted in large area as farmers opted to compensate the loss incurred from growing wheat last season. It is interesting to note that farmers in Kunduz district as in others stress the importance of organizing them under cooperatives in order to join hands and tackle their problems. They also prioritize the need to rehabilitate the irrigation infrastructure to increase yields.

5. Khan Abad District: Agriculture suffers from diseases and pests and lack of extension support. Intakes and some canals are still malfunctioning and lack of traction power, including oxen, and credit is a major source of constraint to increase production. Agriculture products fetch 'low' prices, because farmers in villages like Choghla Sufla, Kvajeh Pesta and Kabuli Qeshlak lack access to markets due to the destruction of roads and unavailability of motorized transport services. By contrast input (improved seed and fertilizer) prices are perceived to be high and they are generally of poor quality.

Parwan Province

1. Gourband District: The irrigation structures in many villages are still destroyed. Yields are down because crops are affected by insects, pests and drought. High prices and poor quality fertilizer have also depressed crops yields. Farmers cultivated poppy last year but the result was not good, and they are now thinking of growing licit crops only.

2. Bagram District: Water is the critical input limiting agriculture production throughout the district. Fields are irrigated by canal water, but the water level in many villages is down due to the drought and sedimentation build up. There was hardly any cultivation of fruits, vegetables and oil seeds in the district. The grape trees have dried up, and in some villages like Mahigir, farmers reported severe food shortage due to crop failure. Area cultivated and agriculture productivity is also down due to the spread of various diseases such as anthracnose and downy mildew. This problem of falling agriculture production is expected to continue unless irrigation structures are rehabilitated and developed. Farmers survive on cash saved from working elsewhere during the Taliban reign.

3. Chahrikar District: In Qal'eh-ye Kuhna and Qalacha-i-Sokhta villages, okra and maize plants dried up due to lack of water. In Sufyane, Qalcha and Qal'eh-ye villages, beans and cotton have also failed. Chili production has failed throughout the district. In Sufyane village a 10 jerib chili farm failed due to disease. Besides water shortage,

diseases and pests such as aphids have affected vegetable output. Crop output was also down due to weeds. Due to lack of improved wheat seed and agriculture machinery cereal output was down in virtually all the villages. The extension service in the district is not covering many farmers. ICARDA promised to distribute improved seed and agro-technical instruments to the people of Ofyane, but this has yet to take place.

The irrigation structures are not functioning to full capacity. In Qalacha-i-Sokhta, for example, the canal water originates from Panjsheer and Ghorband rivers, but the canal is in a poor state and the rivers are also drying up. In Ofyane the canal has completely dried up, forcing a large proportion of the 2,500 families to flee elsewhere in search of jobs. Almond, apple and apricot production has failed due to the severe frost. In Qalacha-i-Sokhta and Totumdara-i-Sufla villages grapes are not processed into raisin due to lack of marketing opportunities. In Qal'eh-ye Kuhna farmers have grown mulberry but due to the cold weather and sever wind output was down. Rehabilitation of irrigation strictures, construction of cold storage for grapes and rehabilitation of the main road from Charikhar to Bagram, Tagab, and Nejrab districts to improve marketing and commercial activities are some of the major initiatives demanded by farmers.

4. Jabulsaraj District: Farmers grow maize after wheat and barley as a second season crop. However, the drought coupled with excessive winds and weeds, depressed wheat and beans output in Toghak and Managozar villages. In Toghak village, most farmers grow vegetables, like onions and potatoes but much of the output is consumed on the farm, because the village has no road linking it with Jabulsaraj market. In Sala Sahra village, on the other hand farmers, produced large quantity of onions which when supplied to markets, prices plummeted; they couldn't store the onions until prices picked up because they didn't have stores. The onions couldn't be exported to Pakistan either because of the closure of the Pakistan border. This issue was discussed with RAMP agriculture team and various options are explored to help farmers. In Qala Sahra, carrot is the most important second vegetable crop. But output was down due to an outbreak of aphids. Mulberry is produced in large quantity in the district. However, the quality is not good. Hence much of it is consumed on the farm and some surplus is fed to sheep and goats. In Myanagozar, farmers cultivated poppy in small part of their lands in 2003, but they did not get good results because the plants were infected with disease. This year (2004) farmers did not grow any poppy and they confirmed their desire not to grow poppy in the future.

5. Surkhi Parsa District: Farmers in Qawme Baqi noted that cereal output was down because the seed material distributed by aid agencies was not good. Agricultural output was down in many villages, including Dawlat Khani, Qawme Baqi and Paye Ruki due to frost and outbreak of insects. Moreover, plants were irrigated sub-optimally further depressing output. Inevitably, therefore, farmers' identified rehabilitation/development of irrigation infrastructure as their most felt needs. They also seek assistance with pest control measures, agricultural instruments and better quality seed and fertilizer.

Ghazni Province

1. Malistan District: Agriculture is largely rainfed, but where fields are irrigated this is done so with water from spring and karez. In some villages like Dahanea Boom, some

farmers use wells. Due to the drought, the springs and wells have dried up and the kareze water table has fallen.

Malistan is not known for fruit. In some villages like Qash Hlome, farmers managed to grow one or two apple and apricot trees. Some of the trees are old and not been replaced by new saplings. Fruit trees have either dried up or failed to produce due to frost.

The drought has also taken its toll on cereal production. Due to lack of water agricultural lands have not been cultivated optimally and yields are well below the average. The average wheat yield is 140-210kg per jerib. Fertilizer is not widely available, so farmers are unaware of its yield increasing effect. Seeds are of local variety and the output does not last the average family for more than three or four months. Most people in Malistan supplement their income from agriculture by working as laborers elsewhere in Afghanistan and in Iran. Vegetable production is restricted to growing of onions and potatoes mostly for domestic consumption. Some legumes like broad bean, mung bean and lentil were planted last season in certain locations, but due to water shortage, not much area has been planted with legumes this season. There are no farmers' associations and agricultural cooperatives in the district.

2. Ander District: The drought appears to have affected people in Ander more significantly. Farmers from all the five sampled villages reported that due to the drought, cereals – maize, rice and barley - were not cultivated. Cotton, legumes and oil seeds, except safflower, were also not cultivated in large parts of the district. Disease coupled with the drought has diminished potato yields, and most other vegetables like pumpkins have also failed. The fruit sector sustained significant output loss due to prolonged frost. Thus yields of apricots and grapes were not just down but absolutely nil in some villages.

3. Qarabah District: In some villages like Sanghil oilseed cultivation is not common, and due to water shortage the cultivation of legumes and output from onions and potatoes was down. Maize and barley were planted both for human consumption and for animal feed. But output was down almost everywhere in the district and the average wheat yield hovered around 175kg/jerib, way below the national average of 570kg/jerib.

Other fruit trees have either dried up due to water shortage or their yields were down due to frost. In Sanghi villages, which has 60 jeribs of grapes, production fell almost completely depriving farmers their major source of cash income. Melon and watermelon have been affected by disease and output had fallen in Shir Abad and other key melon growing villages.

4. Nawer District: Due to lack of rain farmers have not cultivated all the rainfed land. Those who did plant wheat the yield was very low, due to the combined effects of frost and drought. There is hardly any fruit, nut, edible oils and vegetables planted in the district. Among egumes, only mung bean was planted. Among the cereals, only barley and wheat are cultivated, but yields per unit land are substantially low. This is by far the poorest of all the districts surveyed in Ghazni. Shortage of water along with lack of agricultural instruments, improved seed and fertilizer were identified as the critical inputs limiting agriculture production in the district.

5. Jaghouri District: Agriculture in Jaghouri is very much exposed to the vagaries of the weather. As with other districts in the province, irrigation water is the most important

factor limiting agriculture production. Karezes are filled with sediments and cleaning them would increase the water available to fields. In most cases village to district centre roads are poor or non-existent. Improved seed and fertilizer are not available locally and agriculture instruments are also rudimentary. Legumes and edible oils are planted in one out of the five sample villages, and even then they area limited to a couple of crops. Potato and onions are the two most important winter crops while carrots dominate the summer vegetables, but uniformly their output is low. Apples, apricots and mulberry dominate the fruit sector, but the frost was so severe their output was down; there was not much grape planted in the district. Farmers have come up with a number of suggestions to improve their predicament, like construction of dams, cleaning of streams and karezes as well as access to loans for agriculture activities.

Nangarhar Province

1. Kama District: Fresh fruit such as apple, apricot, pomegranate, peach, as well as nuts are not planted for commercial purpose in Kama district. Hope has distributed a number of fruit saplings in Shir Gar village but due to the drought they have all dried up. Farmers grow high-value products like sugarcane and vegetables, but the market is poorly developed. Certain vegetables like cauliflower and carrots are planted widely but in Deh-Ye, Mama Khil and other villages they are fed to animals because the vegetable market remains undeveloped. In other cases farmers grow onions, spinach, and other vegetables mainly for home consumption. The market for water melon is also poor. Several high-value vegetables, including ginger, melon, peas are not planted widely.

Cereal yields are low, because the irrigation systems are either inefficient or don't function at all. Also, seeds are of local variety and maize, wheat and other cereal outputs are low. Rice production was affected in Deh-ye village by the spread of disease. As output from legumes is low, due to lack of improved seed and irrigation, subsistence crops like mung beans, pea, bean, lentil and chickpeas are not planted widely. Almost as a rule farmers are thinking of disengaging from the cultivation of cotton because of low prices offered by the gins. Farmers are also reluctant to increase the production of edible oils because of lack of marketing facilities. This has been noted by farmers in Shir Gar and Mama Khil and Gerdab villages.

Provision of agricultural instruments, rehabilitation of intakes and provision of good quality seed and fertilizer as well as support to farmers associations were demanded by farmers. The demand also includes revitalising the extension programme and developing marketing outlets for agriculture products.

2. Rodat District: Cotton output was down in Baru Kan, Mazeena and Hesrak villages due to the drought and shortage of water. Cotton fields were also affected by disease. A large tract of land, up to 90% of the lands in certain villages like Baru, Kan, Mazeena and Hesrak were cultivated with poppy last season but the result was not that good, partly because the fields were sprayed with chemicals and farmers are now thinking of planting wheat next season. Maize production failed in Kan and Baru villages because of the drought and farmers were able to get only crop residues that were fed to animals.

Mulberry tress are widely planted in Kan, Mazeen and Hesrak villages, but they are valued not for their fruit as such but for the shed and leaves to feed goats and fire wood.

In Rogani the major economic activity appears to be livestock rearing. And yet farmers claim to have lost 80% of their animals due to the combination of drought and disease.

3. Surkh Road District: The drought has affected almost every village in the district. It has taken its toll in Chahar village in particular where agriculture production was completely decimated; farmers could only grow clover and alfalfa for animal feed.

Vegetables like spinach are grown in Bala Bagh and Baghwanay villages both for seed production and marketing. Some maize is also planted in these two villages, both for animal feed and to sell in Jalalabad city.

In Sultanpur and Shamsa what farmers need most is the rehabilitation of the local canal, the provision of improved seed and fertilizer, loans and medicines to control weed in wheat farms.

Better organized markets for agriculture products and construction of water storing dams were also suggested by farmers as critical to increase agriculture production in these villages.

4. Khogyane District: Poppy fields were sprayed in Pirakhel, Hakeem Abad, Karam Kheil, Ahmad Kheil and Wazir villages with chemicals by coalition forces and the campaign to eradicate poppy is gaining momentum. In Wazir village the chemicals have affected apricot yields; in Karam Kheil farmers complain of skin rash which they attribute to the chemical sprays.

Due to the drought wheat yields were down in Wazir and Karam Khail villages – in the case of the latter farmers rainfed wheat failed completely. The drought has also affected walnut yields in Wazir village. In Hakeem Abad apple and apricot production was down because of the drought

Due to the drought apples and apricot production was also not good in Pirakhel village. The drought has also reduced the area planted with oil seeds and vegetables in Pirakhel where mulberries are planted for domestic use only.

Farmers in all the villages covered in this district are severely constrained from increasing agriculture production due to lack of irrigation water. In most cases the irrigation structures are damaged and function sub-optimally. Farmers also would like to have improved cereal and vegetable seeds and fertilizer. Farm to market roads are either bad or non-existent and farmers are unable to take their output to major markets. In Wazir farmers specifically requested short-term agricultural loans and the establishment of agricultural associations and cooperatives.

5. Bati Kot District: The presence of weed, plant diseases such as smut, rust, and animal diseases such as foot and mouth disease, worms and pestilence are affecting agriculture production in Sipiaw, Lowal Kalay and Barikaw villages in particular. Cat worm is endemic in these villages where vegetables are eaten up at the growing season. Rainfed agriculture in Karam Khil village failed due to lack of rains at the time germination. Streams and irrigation system are full of sedimentation in Chahardilhi and Lowal Kalay villages and farmers are not able to clean them. In Hakeem Abad, farmers grow all kinds of fruit, but output is low because there is no adequate irrigation water. In Aziz village, fruit production has failed because the insecticides farmers used was of low quality and there was no extension program in the village to advise them. Farmers in

Barikaw and Lowal Kalay also lack access to markets for vegetables and storage places are unavailable. Farmers in Shamsha Pur village lost about 600 jeribs of maize and 100 jeribs of cotton due to lack of water at the time of plant germination. In Chardihi farmers have abandoned the cultivation of poppy, but their fields are flooded and consequently salty. This has decreased vegetable production. In Baru Yousufzai village farmers hardly planted cereals. About 80% of the 500 jeribs village cropped land is planted with poppy. The same is true for Khan (Alkan) and Hesrak villages where almost all the fields were planted with poppy. Besides rehabilitation of irrigation structures, farmers in the district asked for revitalizing the extension programme and organizing them under associations or cooperatives to pull together resources and address their problems.

Helmand Province

1. Naher Saraj District: Irrigation water is a critical constraint to agriculture activities in all the villages. Due to shortage of water some of the fields are left fallow in Sur Shakh, Yakhcha, Zumbelay, Alokozi and Popalzai villages. Post-harvest crop loss is high, because improved agricultural equipments are not available; threshers are available for maize only. Fertilizer and improved seed are not available in the district markets. Farmers in Zumbelay and Alokozi villages travel to Garesh city to procure inputs.

Farmers in Yakhcha, Zumbelay and Alokozai in particular are requesting construction of drainage systems and irrigation structures. They are also requesting access to agricultural medicines and better quality farm inputs, if necessary on loan.

2. Lashkargah District: Farmers in all the five villages reported that agriculture production is low because of lack of machinery, improved seed and fertilizer. The drought has reduced the local farm power – oxen – particularly in Bolan village and many farmers don't have access to machinery to plough their fields. The irrigation infrastructure is in a poor state. The Joe-ab intake which has a 10Km surface and irrigates many fields in Lashkary Bazaar Sharqee, Lashkary Bazaar and Mokhtar Kala villages has been destroyed. Fields in Lashkary Bazaar Sharqee and Sarkar villages are drained by shovel and this has not been very effective. About 13 jeribs of new land has been planted with apricot saplings in Lashkar Bazar and Sarkar villages.

Agriculture production is also limited by lack of marketing infrastructure in the district. In Mokhtar Kala, Lashkary Bazaar Sharqee and Lashkary Bazaar Shamali, village to market roads are in a poor state and farmers are not able to deliver their products to markets on time. Storages are unavailable, so farmers dispose of their products immediately after the harvest when prices are depressed. The livestock population is affected due to lack of veterinary services and the spread of diseases.

Farmers see rehabilitation of irrigation and road structures, development of market facilities and some soft loans to procure inputs as critical to increase agriculture production in the district. Support with veterinary services will also go some way in rehabilitating the sector.

3. Nad Ali District: Sedimentation build-up in irrigation infrastructure in Khushal Kalay, Chah Mirza, Luy Bagh and Sayed Abad villages has reduced the flow of water to crops. Drainage initiatives would increase the flow of water and permit multiple cropping.

Agriculture production is also affected by lack of improved seeds and fertilizer in all the five villages surveyed. Pests and diseases like sunpest, smut and aphids are affecting cereals and vegetable production while veterinary services are inadequate or non-existent in some villages. In Khushal Kalay, Shin Kalay and Luy Bagh villages lack of marketing infrastructure for agricultural products is acting as a disincentive to farmers to increase the marketable output. Farmers in Khushal Kalay and Sayed Abad villages would like to be organized under cooperatives.

4. Garamser District: Rice, legumes and vegetables are not widely produced in the district. In Lakai, Kuchnay Darweyshan, Hazar Joft and Deh Zak villages cabbage, cauliflower, cumin, garlic, ginger, turnip, edible oils and oranges are not planted. Certain vegetables like potatoes, squash, onions and okra are produced in villages like Lakrai and Lakai but they don't have good market. At the same time, the drought has affected vegetable and maize production in large parts of the district. Since the climate is warm government authorities have prohibited farmers from cultivating rice for fear of mosquitoes breeding in the marshes. Legumes are not well adapted to the environment in Kuchnay Darweyshan, Hazar Joft, Deh Zak villages. The soil in Hazar Joft, Deh Zak is also not suitable for fruits, like apple, apricot, mulberry, peach, pear, pomegranate as well as nuts. Due to the drought and lack of fertilizer, grape production has decreased in Hazar Joft and Kuchnay villages. In Lakrai village, inequitable distribution of Darwarshan canal water is causing social tension. Farmers are discouraged from growing cotton because they are paid low prices by the government gins. Poppy was planted in all the five villages but it was destroyed by the government before harvested.

Marketing facilities are not developed and farmers in Hazar Joft specifically feel they would like this to be given highest priority in the development of the district. Rehabilitation of irrigation structures, provision of improved seeds and fertilizer as well as measures to control disease and pest are requested by farmers. Farmers are asking loans to purchase agricultural inputs and opportunities to earn cash income from public works; they would also like to have saplings to develop orchards.

5. Naway District: Canals and other irrigation structures are destroyed and crops are irrigated sub-optimally. At the same time, sedimentation is building up in dams limiting water acquisition capacity. Basic village to market roads are in poor condition in Hazar Saf (2) and Loy Kalay villages in particular. New fruit trees of almond, apricot and apple are planted in Basolani Haji, Hazar Saf(1), Hazar saf(2) and Khersabad villages (about 25 jeribs altogether). Mulberry is planted in some locations in Hazar Saf(2) but the quality of the fruit is not good to market it. Farmers in fact value mulberry trees for their firewood rather than for fruit as such. Vegetables are not so common in the district. New potato seed acquired from ICRADA is planted on 10 jeribs in Hazar Saf(1) village. Canola planting is also gaining ground in Hazar Saf (2) village.

Farmers in the district have asked for all sorts of assistance, like the establishment of farmers' cooperatives and associations, the provision of improved seed and fertilizer and vaccination campaigns to tackle livestock diseases. Farmers also lack warehouses and in Hazar village they would like this infrastructure be built on credit.

In Khersabad village, farmers complained of neglect by aid organizations and the government– that they have not received any kind of assistance and that even returnees are still living in tents.

Annex 3

Tables

Table 2a. Kunduz Province, Agriculture Production: Output and Sales Estimates Based on PRA Data, 2003

	Unadjusted Extrapolation to Kunduz Province								Unadjusted Extrapolation to 5 Districts							
	Jeribs	Tons	Yield (kg/jb)	Farm Price (af/kg)	Production Value Af '000	% of Production Marketed	Marketed Value Af '000		Jeribs	Tons	Yield (kg/jb)	Farm Price (af/kg)	Production Value Af '000	% of Production Marketed	Marketed Value Af '000	
Cereals and Cash Crops																
Barley	10,247.6	2,761.3	269.5	7.5	20,759.3	49.0	10,178.7	10,141.1	2,732.6	269.5	7.5	20,543.5	49.0	10,072.9		
Maize (Hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Maize (Open Pol)	67,772.9	29,647.2	437.4	3.4	99,656.4	71.1	70,861.5	67,068.3	29,339.0	437.4	3.4	98,620.4	71.1	70,124.8		
Millet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Rice	363,918.1	169,220.6	465.0	15.1	2,552,532.8	78.6	2,006,977.9	360,134.8	167,461.3	465.0	15.1	2,525,996.4	78.6	1,986,113.1		
Wheat (irrigated)	548,346.0	270,593.0	493.5	4.5	1,206,970.9	59.2	714,509.9	542,645.3	267,779.9	493.5	4.5	1,194,423.1	59.2	707,081.7		
Total Cereal Crops	990,284.6	472,222.1	476.9		3,879,919.4	72.2	2,802,527.9	979,989.5	467,312.8	482.0	8.5	3,839,583.3	72.2	2,773,392.5		
Cotton	56,753.8	32,487.2	572.4	13.1	424,753.0	99.2	421,374.1	56,163.8	32,149.4	572.4	13.1	420,337.3	99.2	416,993.5		
Opium Poppy ¹	245.0	1.8	7.3	3,969.0	7,079.1	100.0	7,079.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Food and Cash Crops	1,047,283.4	504,711.0			4,311,751.5	74.9	3,230,981.1	1,036,153.3	499,462.2			4,259,920.6	74.9	3,190,386.0		
Vegetables	167,816.7	353,999.7	2,109.4		910,054.8	83.2	757,414.4	166,072.1	350,319.5	2,109.4		900,593.8	83.2	749,540.2		
Bean (French)	12,073.2	7,209.0	597.1	14.1	101,392.6	58.6	59,456.5	11,947.7	7,134.0	597.1	14.1	100,338.5	58.6	58,838.4		
Bean (other veg)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Broadleaf must.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Cabbage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Cauliflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Chili	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Cucumber	2,408.8	4,364.6	1,811.9	7.9	34,314.3	75.0	25,722.7	2,383.8	4,319.2	1,811.9	7.9	33,957.6	75.0	25,455.3		
Eggplant	3,350.3	5,419.9	1,617.7	4.4	23,969.4	80.6	19,318.2	3,315.5	5,363.6	1,617.7	4.4	23,720.2	80.6	19,117.3		
Garlic	129.6	147.8	1,140.4	382.8	56,588.3	87.5	49,514.8	128.3	146.3	1,140.4	382.8	56,000.0	87.5	49,000.0		
Ginger	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Green pea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Mellon	52,151.7	157,260.0	3,015.4	1.6	255,613.0	92.8	237,237.4	51,609.5	155,625.2	3,015.4	1.6	252,955.6	92.8	234,771.0		
Mellon, Water	39,632.9	116,958.4	2,951.0	1.7	197,741.3	89.5	177,023.5	39,220.9	115,742.5	2,951.0	1.7	195,685.5	89.5	175,183.2		
Okra	8,575.6	8,479.7	988.8	3.3	27,989.9	78.0	21,826.0	8,486.4	8,391.5	988.8	3.3	27,699.0	78.0	21,599.1		
Onion	6,730.2	13,586.3	2,018.7	3.3	44,681.0	84.0	37,519.1	6,660.2	13,445.1	2,018.7	3.3	44,216.5	84.0	37,129.1		
Other leafy veg.	1,369.5	1,728.0	1,261.8	9.6	16,572.3	90.0	14,915.1	1,355.3	1,710.1	1,261.8	9.6	16,400.0	90.0	14,760.0		
Potato	3,703.2	7,600.7	2,052.5	4.7	35,838.2	67.6	24,233.3	3,664.7	7,521.7	2,052.5	4.7	35,465.6	67.6	23,981.4		
Pumpkin	2,476.1	3,027.4	1,222.6	7.8	23,622.9	51.9	12,260.5	2,450.4	2,995.9	1,222.6	7.8	23,377.4	51.9	12,133.0		
Radish	342.0	1,002.3	2,930.7	16.1	16,126.2	91.1	14,694.7	338.5	991.9	2,930.7	16.1	15,958.5	91.1	14,541.9		
Tomato	12,878.4	13,712.1	1,064.7	1.6	21,765.7	73.5	16,006.7	12,744.6	13,569.5	1,064.7	1.6	21,539.4	73.5	15,843.3		
Carrot	1,975.7	6,838.5	3,461.2	3.9	26,836.2	92.7	24,877.0	1,955.2	6,767.4	3,461.2	3.9	26,557.2	92.7	24,618.4		
Turnip	1,807.5	3,127.5	1,730.3	4.5	14,069.3	92.9	13,064.4	1,788.7	3,095.0	1,730.3	4.5	13,923.1	92.9	12,928.5		
Zagher	12,217.2	2,278.5	186.5	5.0	11,448.7	77.6	8,879.6	12,090.2	2,254.8	186.5	5.0	11,329.7	77.6	8,787.3		
Cumin	5,994.5	1,258.8	210.0	1.2	1,485.4	58.2	865.1	5,932.2	1,245.8	210.0	1.2	1,470.0	58.2	856.1		
Sugarcane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Naringe (Orange)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Legumes	185,367.7	37,881.5	204.4		388,398.5	93.7	364,001.9	183,440.6	37,487.7	204.4		384,360.6	93.7	360,217.7		
Blackgram	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Mung Bean	185,297.2	37,865.1	204.3	10.3	388,283.7	93.7	363,908.1	183,370.8	37,471.5	204.3	10.3	384,247.0	93.7	360,124.9		
Lentil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Chickpea	70.5	16.4	232.5	7.0	114.8	81.7	93.7	69.8	16.2	232.5	7.0	113.6	81.7	92.8		
Soybean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Edible Oils	23,720.1	4,791.7	202.0		63,307.6	65.1	41,212.0	23,473.5	4,741.9	202.0		62,649.4	65.1	40,783.6		
Mustard Seed	10,914.8	1,770.1	162.2	16.8	29,791.6	83.4	24,838.3	10,801.3	1,751.7	162.2	16.8	29,481.9	83.4	24,580.1		
Olive	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Safflower	12,210.3	2,878.7	235.8	11.0	31,802.4	47.2	15,002.8	12,083.4	2,848.8	235.8	11.0	31,471.8	47.2	14,846.9		
Sunflower	595.0	142.8	240.0	12.0	1,713.6	80.0	1,370.9	588.8	141.3	240.0	12.0	1,695.8	80.0	1,356.6		
Cottonseed ²	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Fruits	6,786.7	20,691.8	3,048.9		230,213.6	74.9	172,345.4	6,716.2	20,476.7	3,048.9		227,820.2	74.9	170,553.7		
Apple	110.2	485.4	4,404.8	23.9	11,589.9	29.6	3,433.7	109.0	480.3	4,404.8	23.9	11,469.4	29.6	3,398.0		
Apricot	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Cherry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Grape, Fresh	4,839.4	14,298.8	2,954.7	12.1	172,459.6	75.7	130,599.8	4,789.1	14,150.2	2,954.7	12.1	170,666.7	75.7	129,242.1		
Grape, Raisin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Mulberry	28.0	46.1	1,646.9	14.9	685.1	0.0	0.0	27.7	45.6	1,646.9	14.9	678.0	0.0	0.0		
Peach	1,151.3	2,871.3	2,493.8	7.2	20,557.7	81.3	16,712.2	1,139.4	2,841.4	2,493.8	7.2	20,344.0	81.3	16,538.5		
Pear	120.1	676.3	5,630.9	8.0	5,400.5	95.0	5,130.5	118.9	669.3	5,630.9	8.0	5,344.4	95.0	5,077.2		
Plum	537.7	2,313.9	4,303.3	8.4	19,520.7	84.4	16,469.2	532.1	2,289.9	4,303.3	8.4	19,317.8	84.4	16,298.0		
Pomegranet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Nuts	4,643.3	8,514.1	1,832.8		826,017.5	92.1	760,534.5	4,597.0	8,425.6	1,832.8		817,430.1	92.1	752,627.9		
Almond	3,946.0	8,276.4	2,097.4	99.0	819,592.4	92.1	754,823.1	3,905.0	8,190.4	2,097.4	99.0	811,071.9	92.1	746,975.9		
Pistachio	495.8	0.0	0.0	0.0	0.0	0.0	0.0	490.7	0.0	0.0	0.0	0.0	0.0	0.0		
Pea Nuts	49.6	22.2	448.0	8.0	177.7	50.0	88.9	49.1	22.0	448.0	8.0	175.9	50.0	87.9		
Walnut	153.9	215.4	1,400.0	29.0	6,247.3	90.0	5,622.6	152.3	213.2	1,400.0	29.0	6,182.4	90.0	5,564.2		
Total Output Value³	1,435,375.0	930,588.0			6,722,664.3	79.1	5,319,410.2	1,420,452.7	920,913.5			6,652,774.7	79.1	5,264,109.1		
Total Output Value in US\$	Rate:	48.0			140,055,505.8		110,821,046.8					138,599,473.7		109,668,939.3		

Note: 1. Poppy values adjusted as per UNODC 2003 and 2004 reports. 2. Cotton seed is one of the outputs of cotton production, which also

Table 2a. Kunduz Province, Agriculture Production: Output and Sales Estimates Based on PRA Data, 2004

	Unadjusted Extrapolation to Kunduz Province						Unadjusted Extrapolation to Five Districts (PRA Survey Nov, 2004 of Khanabad, Kunduz, Archi, Chahrdara, Imam Sahib Districts)							
	Area Cropped (Jenbs)	Production (Mt)	Yield (Kg/Jb)	Farm Price (Afs/Kg)	Production Value (Afs '000)	% of Production Marketed ¹	Marketed Value (Afs '000)	Area Cropped (Jenbs)	Production (Mt)	Yield (Kg/Jb)	Farm Price (Afs/Kg)	Production Value (Afs '000)	% of Production Marketed ¹	Marketed Value (Afs '000)
Cereals and Cash Crops														
Barley	87,712.5	18,471.0	210.6	5.8	107,895.8	49.6	53,503.6	89,103.7	18,763.9	210.6	5.8	108,105.0	49.6	53,607.4
Maize	51,628.0	6,045.4	117.1	4.0	24,187.1	35.0	8,465.5	52,446.9	6,141.2	117.1	4.0	24,570.7	35.0	8,599.7
Millet	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rice (local)	179,384.2	108,515.9	604.9	12.5	1,353,561.8	74.3	1,005,503.0	182,229.3	110,237.0	604.9	12.5	1,379,512.9	74.3	1,024,781.0
Rice (improved)	137,542.8	107,185.4	779.3	14.3	1,535,725.9	87.1	1,338,275.5	139,724.3	108,885.4	779.3	14.3	1,560,083.2	87.1	1,359,501.0
Wheat (rainfed)	121,066.4	27,291.4	225.4	5.2	141,702.7	21.4	30,364.9	122,986.5	27,724.3	225.4	5.2	143,950.2	21.4	30,846.5
Wheat (irrigated)	409,415.3	147,487.8	360.2	5.6	826,425.9	25.2	208,259.3	415,908.8	149,827.0	360.2	5.6	839,533.3	25.2	211,562.4
Total Cereals Crops	986,749.3	414,996.8	420.6	9.6	3,989,499.2	66.3	2,644,371.8	1,002,399.5	421,578.8	420.6	9.6	4,055,755.3	66.3	2,688,898.0
Cotton	48,316.7	12,010.6	248.6	14.9	179,324.3	79.4	142,363.6	49,083.1	9,643.5	196.5	14.9	143,981.9	79.4	114,305.6
Opium Poppy	1,120.0	8.2	7.3	3,969.0	32,361.6	95.0	30,743.6	8,942.6	65.1	7.3	3,969.0	95.0	245,469.7	
Total Cereals and Cash Crops	1,036,186.0	427,015.6			4,201,185.2	67.1	2,817,478.9	1,060,425.2	431,287.4	406.7	10.3	4,458,126.3	68.4	3,048,673.3
Vegetables	120,424.7	442,045.6	3,670.7		1,522,506.0	70.7	1,076,911.3	122,334.7	496,762.4	4,060.7		1,712,033.8	71.0	1,216,121.6
Cabbage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carrot	4764.6	9889.8	2075.7	1.5	15170.2	62.5	9481.4	4,840.1	10,004.2	2,066.9	1.5	15,345.7	62.5	9,591.1
Cauliflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chili	421.5	549.1	1302.5	3.2	1765.6	29.6	522.6	428.2	541.2	1,263.7	3.2	1,740.2	29.6	515.1
Cucumber	768.2	2738.8	3565.4	8.0	21791.2	93.7	20411.1	780.3	2,779.1	3,561.4	8.0	22,112.4	93.7	20,711.9
Cumin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eggplant	793.2	2464.8	3107.6	2.4	5944.4	41.9	2489.2	805.7	2,378.7	2,952.1	2.4	5,736.7	41.9	2,402.2
Garlic	151.7	102.4	675.1	9.5	976.0	20.0	195.2	154.1	109.6	711.4	9.5	1,044.8	20.0	209.0
Ginger	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green pea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Melon	67758.5	271336.9	4004.5	3.6	964867.1	73.5	709177.3	68,833.2	317,176.2	4,607.9	3.6	1,127,870.2	73.5	828,984.6
Naringe (Oranges)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Okra	4737.2	6677.3	1409.6	5.4	36041.5	37.1	13386.8	4,812.3	6,889.9	1,431.7	5.4	37,188.8	37.1	13,813.0
Onion	3848.9	8647.6	2246.8	4.6	39355.0	57.7	22718.6	3,909.9	9,644.3	2,466.6	4.6	43,891.0	57.7	25,337.1
Potato	7874.5	23131.0	2937.5	4.1	95921.2	63.1	60550.3	7,999.4	23,343.8	2,918.2	4.1	96,803.6	63.1	61,107.3
Pumpkin	482.5	1958.3	4059.1	8.6	16747.6	16.7	2791.3	490.1	1,866.6	3,808.7	8.6	15,963.5	16.7	2,660.6
Radish	97.0	407.4	4200.0	2.0	814.8	95.0	774.0	98.5	413.9	4,200.0	2.0	827.7	95.0	786.3
Spinach	97.0	135.8	1400.0	4.0	543.2	15.0	81.5	98.5	138.0	1,400.0	4.0	551.8	15.0	82.8
Sugarcane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tomato	7358.3	22123.0	3006.5	3.7	82013.3	50.0	41006.6	7,475.0	22,828.7	3,054.0	3.7	84,629.3	50.0	42,314.7
Turnip	265.2	698.0	2631.6	1.9	1352.7	82.0	1109.3	269.4	658.8	2,445.1	1.9	1,276.8	82.0	1,047.0
Watermelon	21006.5	91185.2	4340.8	2.6	239202.3	80.4	192216.1	21,339.6	97,989.4	4,591.9	2.6	257,051.3	80.4	206,559.1
Tobacco	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Leak	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Legumes	157442.5	27340.9	173.7		349017.8	92.6	288271.7	159,939.6	26,918.0	168.3		344,026.4	92.7	284,529.1
Mung Bean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chickpea	353.0	90.6	256.7	8.9	807.1	55.0	443.9	358.6	91.3	254.6	8.9	813.2	55.0	447.3
Green Bean (Fossilia)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Beans (Red & White)	17023.1	7745.5	455.0	14.0	108437.1	90.8	98406.7	17,293.1	7,868.4	455.0	14.0	110,157.0	90.8	99,967.4
Lentil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cowpea	140066.4	19504.7	139.3	12.3	239773.6	79.0	189421.1	142,287.9	18,958.3	133.2	12.3	233,056.2	79.0	184,114.4
Vetch	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Edible Oils	110124.9	27718.4	251.7		499483.2	61.1	305124.0	111,871.5	28,778.0	257.2		500,150.2	60.4	302,056.7
Canola	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cotton Seed ²	0.0	0.0	43.3	6.4	0.0	30.5	0.0	0.0	900.1	43.3	6.4	5,760.8	30.5	1,170.6
Flax	62234.7	13161.3	211.5	11.8	155702.5	53.7	83600.3	63,221.7	13,913.0	220.1	11.8	164,596.1	53.7	88,375.4
Mustard Seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Olive	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Safflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sesame	47890.2	14557.1	304.0	23.6	343780.7	64.4	221523.7	48,649.8	13,964.8	287.0	23.6	329,793.3	64.4	212,510.6
Sunflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fruits	8530.4	18304.6	2145.8		188108.2	61.0	114717.3	8,665.7	18,407.5	2,124.2		189,243.3	60.9	115,295.1
Apple	1123.3	1988.5	1770.3	8.1	16066.8	42.5	6828.4	1,141.1	2,012.0	1,763.2	8.1	16,301.0	42.5	6,927.9
Apricot	687.9	3120.0	4535.7	8.9	27894.3	49.2	13714.7	698.8	3,061.7	4,381.3	8.9	27,291.1	49.2	13,418.1
Cherry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grape, Fresh	3866.9	10705.9	2768.6	11.3	121320.7	69.7	84520.1	3,928.2	10,813.4	2,752.8	11.3	122,534.2	69.7	85,365.5
Grape, Raisin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mulberry	2256.7	242.7	107.5	9.8	2372.3	12.5	296.5	2,292.5	302.9	132.1	9.8	2,967.2	12.5	370.9
Peach	352.4	1179.9	3348.4	11.0	12969.0	46.7	6052.2	358.0	1,156.1	3,229.8	11.0	12,705.0	46.7	5,929.0
Pear	27.4	57.4	2100.0	7.0	402.1	0.0	0.0	27.8	58.3	2,100.0	7.0	408.4	0.0	0.0
Plum	215.9	1010.2	4678.3	7.0	7082.8	46.7	3305.3	219.4	1,003.1	4,572.6	7.0	7,036.3	46.7	3,283.6
Pomegranate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nuts	3786.6	983.2	259.7		84487.4	85.5	72215.0	3,846.6	1,048.1	272.5		90,065.4	85.5	76,983.8
Almond	3776.9	981.5	259.9	86.0	84462.0	85.5	72215.0	3,836.8	1,046.4	272.7	86.0	90,039.5	85.5	76,983.8
Peanut	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walnut	9.7	1.7	175.0	15.0	25.5	0.0	0.0	9.9	1.7	175.0	15.0	25.9	0.0	0.0
Total Output Value Less Poppy in US\$	1,435,375.0	943,400.1			6,812,426.2	68.2	4,643,974.7	1,458,140.6	1,003,136.3			7,035,256.2	68.2	4,798,189.9
Total			@ Afs/\$	46.0	148,096,221.4		100,955,970.8					152,940,353.0		104,308,475.4
Total			@ Afs/\$	48.0	141,925,545.5		100,955,970.8					146,567,838.3		99,962,289.0
Output	1,435,375.0	930588.0277	@ Afs/\$	48.0	140,055,505.8	79.1	110,821,046.8	1,420,452.7	920,913.5			138,599,473.7	79.1	109,668,939.3

Table 2b. Parwan, Agriculture Production: Output and Sales Estimates Based on PRA Data, 2003

	Unadjusted Extrapolation to Parwan Province							Unadjusted Extrapolation of 5 Districts						
	Jeribs	Tons	Yield (kg/lb)	Farm Price (af/kg)	Production Value Af '000	% of Production Marketed	Marketed Value Af '000	Jeribs	Tons	Yield (kg/lb)	Farm Price (af/kg)	Production Value Af '000	% of Production Marketed	Marketed Value Af '000
Cereals and Cash Crops														
Barley	188.1	105.3	560.0	5.0	526.6	0.0	0.0	116.0	65.0	560.0	5.0	324.8	0.0	0.0
Maize (Hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maize (Open Pol)	21,725.2	8,573.9	394.7	3.9	33,801.6	24.7	8,364.1	13,398.9	5,287.9	394.7	3.9	20,846.9	24.7	5,158.5
Millet	9,146.4	2,561.0	280.0	5.0	12,804.9	90.0	11,524.4	5,641.0	1,579.5	280.0	5.0	7,897.3	90.0	7,107.6
Rice	10,229.9	5,728.7	560.0	7.0	40,101.2	3.0	1,203.0	6,309.2	3,533.2	560.0	7.0	24,732.1	3.0	742.0
Wheat (rainfed)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wheat (irrigated)	113,603.7	81,454.9	542.7	6.9	423,996.5	8.7	37,092.2	70,064.2	38,024.0	542.7	6.9	261,496.4	8.7	22,876.3
Total Cereal Crops	154,893.3	78,621.9	500.0	6.8	511,230.8	11.4	58,183.8	95,529.2	48,489.4	500.0	6.8	315,297.5	11.4	35,884.4
Cotton	5,041.0	1,350.1	280.0	24.8	33,437.4	86.1	28,777.4	3,109.0	832.7	280.0	24.8	20,622.3	86.1	17,748.2
Opium Poppy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Food and Cash Crops	159,949.3	79,987.0	500.1	6.8	544,683.2	16.0	86,976.2	98,638.2	49,322.1	500.1	6.8	335,919.7	16.0	53,632.6
Vegetables	55,148.9	136,973.9	2,483.7	18.0	792,066.2	51.8	410,051.3	34,012.6	84,477.5	2,483.7	18.0	488,500.4	51.8	252,895.8
Bean (French)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bean (other veg)	570.6	203.4	356.4	18.0	3,660.8	42.7	1,563.7	351.9	125.4	356.4	18.0	2,257.8	42.7	964.4
Broadleaf must.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cabbage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cauliflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chili	1,664.7	3,267.2	1,962.7	3.6	11,756.1	47.5	5,579.4	1,026.7	2,015.0	1,962.7	3.6	7,250.5	47.5	3,441.0
Cucumber	2,386.0	1,695.6	710.6	17.4	29,486.0	74.5	21,966.3	1,471.6	1,045.7	710.6	17.4	18,185.3	74.5	13,547.5
Eggplant	2,061.9	3,042.7	1,475.7	13.0	39,410.0	40.0	15,764.6	1,271.7	1,876.6	1,475.7	13.0	24,305.8	40.0	9,722.7
Garlic	1,128.1	1,011.3	896.5	41.5	41,984.2	82.7	34,723.8	695.7	623.7	896.5	41.5	25,893.4	82.7	21,415.6
Ginger	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green pea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mellon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mellon, Water	1,023.0	2,415.7	2,361.4	6.3	15,315.6	84.5	12,944.3	630.9	1,489.9	2,361.4	6.3	9,445.8	84.5	7,983.3
Okra	6,022.3	5,288.8	878.2	8.0	42,421.7	62.7	26,594.0	3,714.2	3,261.8	878.2	8.0	26,163.2	62.7	16,401.7
Onion	12,233.5	46,490.5	3,800.3	3.1	145,207.6	49.9	72,386.9	7,544.9	28,672.6	3,800.3	3.1	89,555.6	49.9	44,644.1
Other leafy veg.	586.8	2,250.9	3,836.1	28.2	63,420.8	3.5	2,247.3	361.9	1,388.2	3,836.1	28.2	39,114.3	3.5	1,386.0
Potato	13,179.2	22,909.1	1,738.3	2.5	56,926.4	57.6	32,798.0	8,128.2	14,129.0	1,738.3	2.5	35,108.9	57.6	20,227.9
Pumpkin	263.5	641.4	2,433.7	190.7	122,297.3	7.2	8,843.2	162.5	395.6	2,433.7	190.7	75,425.9	7.2	5,454.0
Radish	196.0	412.9	2,106.7	2.3	963.0	98.0	943.7	120.9	254.6	2,106.7	2.3	593.9	98.0	582.0
Tomato	12,296.1	38,963.7	3,168.8	3.6	141,800.3	75.3	106,726.2	7,583.5	24,030.5	3,168.8	3.6	87,454.2	75.3	65,822.5
carrot	883.9	3,285.0	3,716.5	20.2	66,310.2	84.6	56,085.6	545.1	2,026.0	3,716.5	20.2	40,896.3	84.6	34,590.4
Turnep	653.3	5,095.8	7,800.0	2.2	11,106.3	98.0	10,884.2	402.9	3,142.8	7,800.0	2.2	6,849.7	98.0	6,712.7
Zagher	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar Cane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Naringe (Orange)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Legumes	13,436.7	2,898.0	215.7	19.6	57,808.8	64.2	37,126.8	8,287.0	1,787.3	215.7	19.6	35,653.1	64.2	22,897.7
Blackgram	6,101.7	1,027.4	168.4	19.6	20,090.6	53.0	10,639.7	3,763.2	633.7	168.4	19.6	12,390.7	53.0	6,562.0
Mung Bean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lentil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chickpea	2,659.4	686.9	258.3	15.2	10,443.7	79.3	8,284.9	1,640.2	423.6	258.3	15.2	6,441.0	79.3	5,109.6
Soybean	4,675.6	1,183.7	253.2	23.0	27,274.6	66.7	18,202.2	2,883.6	730.0	253.2	23.0	16,821.4	66.7	11,226.0
Edible Oils	6,668.1	1,193.5	179.0	13.0	13,811.1	80.4	11,102.7	4,112.5	736.1	179.0	13.0	8,517.9	80.4	6,847.5
Mustard Seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Olive	196.0	54.9	280.0	10.0	548.8	1.0	5.5	120.9	33.8	280.0	10.0	338.5	1.0	3.4
Safflower	39.4	11.0	280.0	15.0	165.6	1.0	1.7	24.3	6.8	280.0	15.0	102.1	1.0	1.0
Sunflower	3,749.3	581.7	155.2	15.3	8,909.2	87.4	7,791.0	2,312.3	358.8	155.2	15.3	5,494.7	87.4	4,805.1
Cotton Seeds	2,683.5	545.8	203.4	7.7	4,187.5	78.9	3,304.5	1,655.0	336.6	203.4	7.7	2,582.6	78.9	2,038.0
Fruits	77,796.5	380,776.4	4,894.5	10.0	3,240,066.4	75.9	2,459,026.1	47,980.4	234,840.8	4,894.5	10.0	1,998,284.7	75.9	1,516,584.4
Apple	1,471.7	3,466.4	2,355.4	10.1	35,108.3	57.3	20,104.2	907.6	2,137.9	2,355.4	10.1	21,652.8	57.3	12,399.1
Apricot	8,680.5	65,689.6	7,567.5	7.1	466,895.3	90.5	422,586.4	5,353.6	40,513.5	7,567.5	7.1	287,953.9	90.5	260,626.7
Cherry	214.0	8,892.5	41,561.0	0.6	5,570.4	20.2	1,126.3	132.0	5,484.4	41,561.0	0.6	3,435.5	20.2	694.6
Grape, Fresh	59,612.3	291,817.2	4,895.2	9.0	2,614,264.5	74.0	1,935,591.5	36,765.4	179,975.9	4,895.2	9.0	1,612,326.5	74.0	1,193,760.4
Grape, Raisin	849.3	520.7	613.1	21.1	10,982.2	24.5	2,685.5	523.8	321.1	613.1	21.1	6,773.2	24.5	1,656.3
Mulberry	5,975.7	8,370.3	1,400.7	8.5	71,243.2	67.8	48,298.5	3,685.5	5,162.3	1,400.7	8.5	43,938.7	67.8	29,787.7
Peach	848.1	1,701.4	2,006.1	8.2	13,980.3	71.9	10,046.9	523.1	1,049.3	2,006.1	8.2	8,622.3	71.9	6,196.3
Pear	22.7	40.1	1,764.0	15.0	601.5	90.0	541.4	14.0	24.7	1,764.0	15.0	371.0	90.0	333.9
Plum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pomegranet	122.2	278.2	2,277.6	77.0	21,420.6	84.2	18,045.4	75.3	171.6	2,277.6	77.0	13,211.0	84.2	11,129.4
Nuts	22,119.0	32,504.5	1,469.5	32.9	1,079,103.9	40.2	433,968.0	13,641.7	20,046.9	1,469.5	32.9	665,528.6	40.2	267,646.2
Almond	19,669.7	32,008.5	1,627.3	32.9	1,051,607.2	39.1	411,031.7	12,131.2	19,741.0	1,627.3	32.9	648,570.2	39.1	253,500.5
Pisthiao	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Peanut	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walnut	2,449.2	496.1	202.5	55.4	27,496.7	83.4	22,936.2	1,510.5	306.0	202.5	55.4	16,958.4	83.4	14,145.7
Total Output Value Less Poppy	332,435.0	634,333.4			5,727,539.6	60.0	3,438,251.0	205,017.3	391,210.7			3,532,404.5	60.0	2,120,504.2
Total Output Value in US\$		Rate: 48.0			119,323,741.4		71,630,229.1					73,591,759.9		44,177,171.9

Table 2b. Parwan, Agriculture Production: Output and Sales Estimates Based on PRA Data, 2004

	Unadjusted Extrapolation to Parwan Province						Unadjusted Extrapolation to Five Districts (PRA Survey Nov, 2004 of Surkhi Parsa, Jabulssaraj, Chahrikar, Bagram, Ghorband Districts)							
	Area Cropped (Jenris)	Production (Mt)	Yield (Kg/Jb)	Farm Price Value (Afs/Kg)	Production % of Marketed (Afs '000)	Marketed Value (Afs '000)	Area Cropped (Jenris)	Production (Mt)	Yield (Kg/Jb)	Farm Price Value (Afs/Kg)	Production % of Marketed (Afs '000)	Marketed Value (Afs '000)		
Cereals and Cash Crops														
Barley	11,610.5	4,365.7	376.0	7.8	34,098.5	30.0	10,229.6	7,285.6	2,750.3	377.5	7.8	21,589.5	30.0	6,476.8
Maize	23,351.2	8,973.2	384.3	5.1	45,464.1	42.8	19,448.5	14,652.9	5,628.1	384.1	5.1	28,528.6	42.8	12,203.9
Millet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rice	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wheat (rainfed)	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wheat (irrigated)	159,362.4	52,297.9	328.2	8.3	434,750.6	3.6	15,651.0	100,000.0	32,816.9	328.2	8.3	272,102.2	3.6	9,795.7
Total Cereals Crops	194,324.2	65,636.8	337.8	7.8	514,313.2	8.8	45,329.1	121,938.5	41,195.3	337.8	7.8	322,220.3	8.8	28,476.4
Cotton	7,146.0	1,675.7	234.5	27.7	46,379.2	56.3	26,088.3	4,484.1	1,014.4	226.2	28.6	28,996.7	56.3	16,310.7
Opium Poppy	6,550.0	22.9	3.5	4,000.0	91,700.0	100.0	91,700.0	1,187.1	4.2	3.5	4,000.0	16,619.8	100.0	16,619.8
Total Cereals and Cash Crops	208,020.2	67,335.4	3,687.6		652,392.4	25.0	163,117.4	127,609.8	42,213.9			367,836.8	16.7	61,406.9
Vegetables	29,044.9	107,105.4	3,687.6		511,419.2	67.7	346,259.5	18,225.7	67,323.7	3,693.9		321,370.8	67.7	217,663.3
Cabbage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carrot	3,028.8	9,994.7	3,299.9	2.6	25,562.2	38.6	9,862.7	1,900.6	6,250.5	3,288.8	2.6	15,999.8	38.6	6,173.2
Cauliflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chili	492.7	157.5	319.6	10.7	1,687.6	33.6	567.0	309.2	102.3	330.8	10.7	1,099.2	33.6	369.3
Cucumber	197.7	1,010.4	5,109.8	7.9	8,024.8	94.3	7,570.1	124.1	633.4	5,104.5	7.9	5,018.3	94.3	4,733.9
Cumin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eggplant	396.4	1,341.7	3,384.8	3.0	4,036.1	54.5	2,199.7	248.7	838.9	3,372.5	3.0	2,523.9	54.5	1,375.5
Garlic	413.4	253.8	614.1	7.4	1,869.1	74.1	1,385.8	259.4	158.7	611.9	7.4	1,174.1	74.1	870.5
Ginger	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green pea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Melon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Naringe (Oranges)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Okra	204.3	165.1	807.9	7.2	1,184.6	46.0	544.9	128.2	103.7	808.7	7.2	744.9	46.0	342.6
Onion	7,723.5	31,767.0	4,113.0	4.7	148,383.4	61.1	90,688.4	4,846.5	19,845.6	4,094.8	4.7	92,656.2	61.1	56,629.3
Potato	3,008.7	7,898.6	2,625.2	5.9	46,411.2	63.7	29,558.1	1,888.0	4,961.9	2,628.2	5.9	29,081.1	63.7	18,521.0
Pumpkin	35.0	152.4	4,351.7	5.9	893.9	0.8	7.4	22.0	95.2	4,331.8	5.8	553.9	0.8	4.6
Radish	56.8	179.1	3,150.0	2.0	358.1	92.5	331.3	35.7	112.4	3,150.0	2.0	224.7	92.5	207.9
Spinach	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugarcane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tomato	11,460.3	52,326.1	4,565.9	4.7	248,507.0	72.4	180,012.3	7,191.3	33,057.2	4,596.8	4.7	156,923.9	72.4	113,671.7
Turnip	491.9	1,525.8	3,102.2	2.1	3,178.5	69.5	2,209.1	308.6	955.0	3,094.2	2.1	1,991.0	69.5	1,383.8
Watermelon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tobacco	1,535.3	333.2	217.0	64.0	21,322.6	100.0	21,322.6	963.4	209.1	217.0	64.0	13,380.0	100.0	13,380.0
Leak	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Legumes	14,010.7	2,449.6	174.8		22,089.1	59.6	13,155.4	8,791.7	1,537.5	174.9		13,909.9	59.6	8,292.0
Mung Bean	7,908.2	1,153.3	145.8	4.0	4,562.5	17.5	798.4	4,962.4	723.6	145.8	4.0	2,861.0	17.5	500.7
Chickpea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Bean (Fossilia)	152.3	352.7	2,314.8	7.1	2,513.0	68.8	1,727.7	95.6	219.4	2,294.6	7.1	1,564.5	68.8	1,075.6
Beans (Red & White)	5,151.5	804.3	156.1	16.5	13,235.6	72.5	9,590.7	3,232.5	507.2	156.9	16.5	8,369.0	72.5	6,064.3
Lentil	47.3	3.3	70.0	13.0	43.0	95.0	40.9	29.7	2.1	70.0	13.0	27.0	95.0	25.7
Cowpea	751.4	136.0	181.0	12.8	1,735.0	57.5	997.6	471.5	85.3	181.0	12.8	1,088.3	57.5	625.7
Vetch	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Edible Oils	3,091.2	849.0	274.6		5,692.0	58.6	3,333.0	1,939.7	532.8	274.7		3,564.4	58.6	2,087.9
Canola	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cotton Seed ²	2,894.9	799.5	276.2	6.0	4,812.3	51.3	2,466.3	1,816.5	501.7	276.2	6.0	3,012.2	51.3	1,543.8
Flax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mustard Seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Olive	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Safflower	157.9	41.4	262.4	17.3	718.5	98.2	705.6	99.1	26.0	262.6	17.3	451.1	98.2	442.9
Sesame	38.4	8.1	210.0	20.0	161.2	100.0	161.2	24.1	5.1	210.0	20.0	101.2	100.0	101.2
Sunflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fruits	79,272.3	313,757.4	3,958.0		2,986,209.2	68.3	2,038,879.3	49,743.4	201,393.3	4,048.6		1,919,749.5	68.2	1,310,209.3
Apple	2,273.6	3,192.8	1,404.3	6.7	21,332.6	78.7	16,788.8	1,426.7	2,035.7	1,426.9	6.7	13,585.3	78.7	10,691.6
Apricot	6,342.6	22,958.5	3,619.8	6.0	137,475.1	84.1	115,616.5	3,980.0	14,412.2	3,621.2	6.0	86,293.9	84.1	72,573.1
Cherry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grape, Fresh	59,616.4	275,752.4	4,625.4	9.6	2,655,711.9	67.1	1,781,741.2	37,409.3	177,501.1	4,744.8	9.6	1,712,088.7	67.1	1,148,655.9
Grape, Raisin	4,729.6	4,887.3	1,033.3	21.3	104,261.5	93.3	97,310.7	2,967.8	3,066.8	1,033.3	21.3	65,424.1	93.3	61,062.5
Mulberry	6,272.3	6,941.1	1,106.6	9.7	67,299.0	40.7	27,400.3	3,935.8	4,361.6	1,108.2	9.7	42,276.5	40.7	17,212.6
Peach	15.2	14.2	940.0	3.2	45.6	10.0	4.6	9.5	8.9	940.0	3.2	28.6	10.0	2.9
Pear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Plum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pomegranate	22.7	11.1	490.0	7.5	83.8	20.5	17.1	14.3	7.0	490.0	7.5	52.4	20.5	10.7
Nuts	8,425.5	5,934.8	704.4		468,880.7	98.2	460,595.5	5,287.0	3,750.9	709.5		298,334.4	98.2	293,051.7
Almond	8,018.8	5,705.3	711.5	80.1	457,069.9	98.6	450,467.7	5,031.8	3,603.8	716.2	80.7	290,732.9	98.6	286,533.5
Peanut	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walnut	406.7	229.5	564.3	51.5	11,810.8	85.8	10,127.8	255.2	147.1	576.4	51.7	7,601.5	85.8	6,518.3
Total Output Value	332,420.0	497,408.6			4,554,982.6	64.4	2,933,640.1	208,593.7	316,748.0			2,908,146.0	64.5	1,876,091.3
Output			@ Afs/\$	46.0	99,021,361.1							63,220,565.1		40,784,594.5
Total			@ Afs/\$	48.0	94,895,471.0							60,586,374.9		39,085,236.4
Output	332,435.0	634,333.4	@ Afs/\$	48.0	119,323,741.4	60.0	71,630,229.1	205,017.3	391,210.7			73,591,759.9	60.0	44,177,171.9

Table 2c. Ghazni, Agriculture Production: Output and Sales Estimates Based on PRA Data, 2003

	Unadjusted Extrapolation to Ghazni Province							Unadjusted Extrapolation to 5 Districts						
	Jeribs	Tons	Yield (kg/jb)	Farm Price (af/kg)	Production Value Af '000	% of Production Marketed	Marketed Value Af '000	Jeribs	Tons	Yield (kg/jb)	Farm Price (af/kg)	Production Value Af '000	% of Production Marketed	Marketed Value Af '000
Cereal and Cash Crops														
Barley	6,479.0	2,773.0	428.0	5.9	16,272.2	26.3	4,277.2	2,516.8	794.6	315.7	5.9	4,662.8	26.3	1,225.6
Maize (Open Pol)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3,883.3	962.2	247.8	6.4	6,160.4	22.1	1,358.5
Maize (Hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Millet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rice	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wheat (irrigated)	432,442.6	155,426.7	359.4	8.5	1,317,691.4	14.2	187,231.7	167,986.5	60,377.0	359.4	8.5	511,869.8	14.2	72,732.0
Total Cereal Crops	438,921.7	158,199.7	360.4		1,333,963.6	14.4	191,508.9	174,386.7	62,133.8			522,693.0	14.4	75,316.0
Cotton	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Opium Poppy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Cereal and Cash Crops	438,921.7	158,199.7			1,333,963.6	14.4	191,508.9	174,386.7	62,133.8			522,693.0	14.4	75,316.0
Vegetables	61,349.1	182,972.8	2,982.5		573,091.0	76.0	435,377.6	23,831.7	71,077.5	2,982.5		222,622.7	76.0	169,126.6
Bean (French)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bean (other veg)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Broadleaf must.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cabbage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cauliflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chili	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cucumber	859.0	1,204.1	1,401.7	23.6	28,375.9	72.6	20,594.0	333.7	467.7	1,401.7	23.6	11,022.9	72.6	7,999.9
Eggplant	514.2	1,255.7	2,442.0	8.3	10,479.9	77.6	8,132.5	199.7	487.8	2,442.0	8.3	4,071.0	77.6	3,159.2
Garlic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ginger	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green pea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mellon	1,927.5	5,410.4	2,806.9	14.4	77,740.6	67.4	52,418.8	748.8	2,101.7	2,806.9	14.4	30,199.1	67.4	20,362.6
Mellon, Water	6,577.4	26,578.8	4,040.9	2.8	74,973.9	65.3	48,942.6	2,555.1	10,324.8	4,040.9	2.8	29,124.3	65.3	19,012.2
Okra	63.4	88.7	1,400.0	19.3	1,715.1	15.9	273.2	24.6	34.5	1,400.0	19.3	666.2	15.9	106.1
Onion	12,948.9	57,417.1	4,434.1	2.8	161,624.9	80.5	130,031.4	5,030.1	22,304.2	4,434.1	2.8	62,784.7	80.5	50,511.9
Other leafy veg.	2,879.1	5,442.8	1,890.5	3.2	17,290.3	87.9	15,200.5	1,118.4	2,114.3	1,890.5	3.2	6,716.6	87.9	5,904.8
Potato	26,839.3	65,750.2	2,449.8	1.6	108,014.4	82.1	88,675.9	10,426.0	25,541.3	2,449.8	1.6	41,959.2	82.1	34,447.0
Pumpkin	1,121.0	2,789.1	2,488.1	4.2	11,735.4	68.7	8,058.6	435.5	1,083.4	2,488.1	4.2	4,558.7	68.7	3,130.4
Radish	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tomato	3,789.2	6,623.2	1,747.9	6.0	40,018.9	87.4	34,970.4	1,472.0	2,572.8	1,747.9	6.0	15,545.7	87.4	13,584.6
carrot	2,963.2	8,163.7	2,755.1	3.1	25,149.8	69.3	17,428.9	1,151.1	3,171.3	2,755.1	3.1	9,769.7	69.3	6,770.4
Turnep	866.9	2,248.9	2,594.3	7.1	15,971.9	66.7	10,650.7	336.7	873.6	2,594.3	7.1	6,204.5	66.7	4,137.4
Zagher	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugarcane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Naringe (Orange)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Legumes	38,049.4	8,736.5	229.6		73,213.2	68.4	50,086.7	14,780.7	3,393.8	229.6		28,440.4	68.4	19,456.7
Blackgram	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mung Bean	33,121.0	7,563.7	228.4	8.7	66,076.1	71.3	47,127.3	12,866.2	2,938.2	228.4	8.7	25,667.9	71.3	18,307.0
Lentil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chickpea	4,761.6	1,142.7	240.0	6.0	6,897.1	41.9	2,887.4	1,849.7	443.9	240.0	6.0	2,679.2	41.9	1,121.6
Soybean	166.7	30.0	180.0	8.0	240.1	30.0	72.0	64.8	11.7	180.0	8.0	93.3	30.0	28.0
Edible Oils	8,784.3	3,788.7	431.3		56,581.6	82.8	46,867.5	3,412.3	1,471.8	431.3		21,979.7	82.8	18,206.1
Mustard Seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Olive	7,950.6	3,605.3	453.5	14.9	53,830.3	82.5	44,391.4	3,088.5	1,400.5	453.5	14.9	20,910.9	82.5	17,244.3
Safflower	833.7	183.4	220.0	15.0	2,751.3	90.0	2,476.1	323.9	71.3	220.0	15.0	1,068.8	90.0	961.9
Sunflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cottonseed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fruits	30,136.8	66,362.2	2,202.0		1,668,453.7	86.9	1,450,154.1	11,706.9	25,779.0	2,202.0		648,126.8	86.9	563,326.2
Apple	3,386.4	13,204.8	3,899.3	7.8	102,718.3	92.8	95,274.6	1,315.5	5,129.5	3,899.3	7.8	39,901.9	92.8	37,010.3
Apricot	3,696.1	13,903.3	3,761.6	7.4	103,444.5	86.2	89,147.9	1,435.8	5,400.9	3,761.6	7.4	40,184.0	86.2	34,630.4
Cherry	42.2	88.7	2,100.0	30.0	2,661.3	45.0	1,197.6	16.4	34.5	2,100.0	30.0	1,033.8	45.0	465.2
Grape, Fresh	13,287.0	30,891.3	2,324.9	7.8	240,297.5	77.2	185,423.1	5,161.5	12,000.0	2,324.9	7.8	93,345.9	77.2	72,029.4
Grape, Raisin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mulberry	2,112.2	2,033.0	962.5	20.5	41,768.0	45.6	19,035.8	820.5	789.7	962.5	20.5	16,225.2	45.6	7,394.7
Peach	556.5	999.5	1,796.2	15.4	15,400.6	91.7	14,127.9	216.2	388.3	1,796.2	15.4	5,982.5	91.7	5,488.1
Pear	719.9	1,439.8	2,000.0	15.0	21,596.8	90.0	19,437.1	279.6	559.3	2,000.0	15.0	8,389.5	90.0	7,550.5
Plum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pomegranet	6,336.5	3,801.9	600.0	300.0	1,140,566.7	90.0	1,026,510.0	2,461.5	1,476.9	600.0	300.0	443,064.0	90.0	398,757.6
Nuts (a)	36,448.7	37,632.0	1,032.5		1,580,623.2	88.3	1,395,934.8	14,158.9	14,618.5	1,032.5		614,008.2	88.3	542,264.2
Almond	2,485.7	33,133.7	13,329.5	45.8	1,516,495.2	91.2	1,383,734.1	965.6	12,871.1	13,329.5	45.8	589,097.1	91.2	537,524.8
Pistachio	33,836.8	0.0	0.0	0.0	0.0	0.0	0.0	13,144.2	0.0	0.0	0.0	0.0	0.0	0.0
Pea Nuts	105.6	47.3	448.0	8.0	378.5	50.0	189.2	41.0	18.4	448.0	8.0	147.0	50.0	73.5
Walnut	20.6	4,451.0	216,398.2	14.3	63,749.5	18.8	12,011.4	8.0	1,729.0	216,398.2	14.3	24,764.1	18.8	4,665.9
Total Output Value	579,853.2	457,691.9			5,285,926.3	67.5	3,569,929.6	229,132.9	178,474.4			2,057,870.8	67.4	1,387,695.9
Total Output Value in US\$		Rate: 48.0			110,123,465.2		74,373,533.2					42,872,307.5		28,910,330.8

Table 2c. Ghazni, Agriculture Production: Output and Sales Estimates Based on PRA Data, 2004

	Unadjusted Extrapolation to Ghazni Province							Unadjusted Extrapolation to Five Districts (PRA Survey Nov. 2004 of Ander, Malistan, Jaghuri, Qarabah, Nawar Districts)						
	Cropped Area (Jeribs)	Production (Mt)	Yield (Kg/Jb)	Farm Price (Af/Kg)	Production Value Af '000	% of Production Marketed	Marketed Value Af '000	Cropped Area (Jeribs)	Production (Mt)	Yield (Kg/Jb)	Farm Price (Af/Kg)	Production Value Af '000	% of Production Marketed	Marketed Value Af '000
Cereal and Cash Crops														
Barley	12,043.3	3,119.9	259.1	7.4	23,180.2	10.8	2,511.2	3,675.3	953.6	259.5	8.0	7,588.5	10.8	822.1
Maize	1,734.7	67.4	38.8	8.0	539.1	0.0	0.0	529.4	15.0	28.3	8.0	119.7	0.0	0.0
Millet	16.5	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
Rice (local)	32.9	0.0	0.0	0.0	0.0	0.0	0.0	10.1	0.0	0.0	0.0	0.0	0.0	0.0
Wheat (rainfed)	222,637.2	34,833.7	156.5	7.9	276,771.1	10.0	27,677.1	67,942.3	10,630.2	156.5	7.9	84,462.4	10.0	8,446.2
Wheat (irrigated)	257,479.4	85,998.1	334.0	10.8	929,854.7	2.8	25,958.4	78,575.1	36,163.4	460.2	11.0	396,595.7	2.8	11,071.6
Total Cereal Crops	493,944.0	124,019.1	251.1	9.9	1,230,345.1	4.6	56,146.7	150,737.2	47,762.1	251.1	10.2	488,766.3	4.2	20,340.0
Cotton	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Opium Poppy	310.0	1.7	5.6	4,000.0	6,894.4	100.0	6,894.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Cereals and Cash Crops	494,254.0	124,020.8			1,237,239.5	5.1	63,041.1	150,737.2	47,762.1			488,766.3	4.2	20,340.0
Vegetables	39,148.5	77,867.5	1,989.0		858,437.9	58.9	505,402.2	11,947.0	18,439.3	1,543.4		182,674.2	58.3	106,556.0
Cabbage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carrot	2,149.6	7,287.6	3,390.2	7.0	51,083.5	63.6	32,506.1	656.0	2,164.8	3,300.0	7.0	15,238.7	63.6	9,696.9
Cauliflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chili	68.0	32.4	477.1	29.8	967.0	70.0	676.9	20.7	11.1	533.7	26.6	294.0	70.0	205.8
Cucumber	131.8	689.6	5,233.3	4.3	2,988.4	86.0	2,570.0	40.2	210.5	5,233.3	4.3	912.0	86.0	784.3
Cumin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eggplant	761.9	499.9	656.2	14.4	7,185.5	60.0	4,311.3	232.5	152.2	654.6	14.7	2,231.8	60.0	1,339.1
Garlic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ginger	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green pea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Melon	1,811.9	7,610.1	4,200.0	7.0	53,270.5	52.5	27,967.0	552.9	2,322.4	4,200.0	7.0	16,256.6	52.5	8,534.7
Naringe (Oranges)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Okra	39.7	15.5	390.8	27.1	420.3	80.0	336.3	12.1	5.3	438.0	28.0	148.5	80.0	118.8
Onion	5,747.3	11,622.6	2,022.3	11.2	130,588.5	61.6	80,399.0	1,753.9	2,318.8	1,322.1	11.0	25,598.3	61.6	15,760.0
Potato	26,962.4	47,530.2	1,762.8	12.2	580,795.2	59.8	347,254.4	8,228.1	10,487.7	1,274.6	10.7	112,284.7	59.8	67,134.4
Pumpkin	7.7	21.6	2,800.0	0.0	0.0	50.0	0.0	2.4	6.6	2,800.0	0.0	46.2	50.0	23.1
Radish	68.0	89.6	1,318.2	5.6	497.3	93.5	465.0	20.7	32.2	1,552.2	5.7	182.6	93.5	170.7
Spinach	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugarcane	77.3	108.2	1,400.0	12.0	1,298.6	0.0	0.0	23.6	33.0	1,400.0	12.0	396.3	0.0	0.0
Tomato	625.8	1,438.3	2,298.2	16.0	23,063.1	16.7	3,843.9	191.0	401.2	2,100.8	17.6	7,050.3	16.7	1,175.1
Turnip	354.8	390.7	1,101.2	5.1	2,009.8	57.5	1,155.6	108.3	126.3	1,166.2	5.4	687.9	57.5	395.5
Watermelon	210.6	19.6	93.3	8.2	161.1	51.7	83.2	64.3	11.2	175.0	8.2	92.5	51.7	47.8
Sugarbeet	82.4	494.2	6,000.0	8.0	3,953.3	95.0	3,755.6	25.1	150.8	6,000.0	8.0	1,206.4	95.0	1,146.1
Leak	49.4	17.3	350.0	9.0	155.7	50.0	77.8	15.1	5.3	350.0	9.0	47.5	50.0	23.8
Legumes	14,223.9	3,064.6	215.5		26,767.7	77.0	20,600.4	4,340.7	938.5	216.2		8,263.9	77.0	6,265.4
Mung Bean	11,271.4	2,662.9	236.3	7.6	20,304.3	83.3	16,920.2	3,439.7	812.6	236.3	7.6	6,196.3	83.3	5,163.6
Chickpea	23.2	16.2	700.0	20.0	324.7	90.0	292.2	7.1	5.0	700.0	20.0	99.1	90.0	89.2
Green Bean (Fossilia)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Beans (Red & White)	243.0	41.7	171.5	23.5	981.0	82.5	809.0	74.2	16.0	215.5	24.7	394.5	82.5	325.4
Lentil	2,686.3	343.9	128.0	15.0	5,157.8	50.0	2,578.9	819.8	104.9	128.0	15.0	1,574.0	50.0	787.0
Cowpea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Edible Oils	346.1	247.4	714.9		3,703.6	98.8	3,658.5	105.6	73.9	699.9		1,071.0	98.8	1,057.8
Canola	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cotton Seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mustard Seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Olive	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Safflower	122.5	147.1	1,200.0	2.5	367.6	100.0	367.6	37.4	44.9	1,200.0	2.5	112.2	100.0	112.2
Sesame	30.9	13.0	420.0	10.0	129.9	90.0	116.9	9.4	4.0	420.0	10.0	39.6	90.0	35.7
Sunflower	192.6	87.4	453.6	36.7	3,206.1	99.0	3,174.0	58.8	25.1	426.7	36.7	919.1	99.0	909.9
Fruits	41,407.4	3,753.1	90.6		25,202.0	60.8	15,312.7	12,636.3	1,860.7	147.2		11,734.2	59.8	7,021.2
Apple	10,765.6	2,889.4	268.4	4.3	12,424.3	55.5	6,895.5	3,285.4	1,506.7	458.6	4.3	6,484.3	55.5	3,598.8
Apricot	5,973.3	767.9	128.6	14.8	11,326.5	63.8	7,220.7	1,822.9	323.3	177.4	14.8	4,768.7	63.8	3,040.0
Cherry	15.5	16.2	1,050.0	20.0	324.7	95.0	308.4	4.7	5.0	1,050.0	20.0	99.1	95.0	94.1
Grape, Fresh	23,738.1	0.0	0.0	0.0	0.0	0.0	0.0	7,244.2	0.0	0.0	0.0	0.0	0.0	0.0
Grape, Raisin	746.4	0.0	0.0	0.0	0.0	0.0	0.0	227.8	0.0	0.0	0.0	0.0	0.0	0.0
Mulberry	114.4	7.9	69.0	27.0	213.2	45.0	95.9	34.9	3.8	109.8	27.0	103.4	45.0	46.5
Peach	30.9	42.7	1,380.0	14.0	597.4	85.0	507.8	9.4	13.0	1,380.0	14.0	182.3	85.0	155.0
Pear	7.7	7.0	900.0	20.0	139.1	90.0	125.2	2.4	2.1	900.0	20.0	42.5	90.0	38.2
Plum	15.5	22.1	1,430.0	8.0	176.9	90.0	159.2	4.7	6.7	1,430.0	8.0	54.0	90.0	48.6
Pomegranate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nuts	780.2	316.0	405.1		13,352.8	88.8	11,850.7	238.1	106.1	445.5		4,481.5	88.8	3,977.3
Almond	780.2	316.0	405.1	42.3	13,352.8	88.8	11,850.7	238.1	106.1	445.5	42.3	4,481.5	88.8	3,977.3
Peanut	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walnut	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Output Value	589,850.0	209,267.8			2,157,809.1	28.4	612,971.1	180,004.9	69,180.6			696,991.0	20.8	145,317.4
Total Output Value in US\$ at Current Rate				@ Af/\$	46,908,893.9		13,325,459.2					15,151,979.3		3,159,074.6
Total Output Value in US\$ at Constant Rate				@ Af/\$	44,954,356.7		12,770,231.8					14,520,646.8		3,027,446.5
Total Output Value in US\$, Baseline Survey 200	579,853.2	457,691.9		@ Af/\$	48,010,123,465.2	67.5	74,373,533.2	229,132.9	178,474.4			42,872,307.5	67.4	28,910,330.8

Table 2d. Nangarhar Province, Agriculture Production, Output and Sales Estimates Based on PRA Data, 2003

	Unadjusted Extrapolation to Nangarhar Province							Unadjusted Extrapolation to Five Districts						
	Jeribs	Tons	Yield (kg/jb)	Farm Price (af/kg)	Production Value Af'000	% of Production Marketed	Marketed Value Af'000	Jeribs	Tons	Yield (kg/jb)	Farm Price (af/kg)	Production Value Af'000	% of Production Marketed	Marketed Value Af'000
Cereals and Cash Crops														
Barley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maize (Hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maize (Open Pol)	113,411.5	45,072.5	397.4	4.2	189,577.8	18.4	34,821.0	31,457.5	12,502.0	397.4	4.2	52,584.1	18.4	9,658.5
Millet	2,850.2	2,068.9	725.9	7.1	14,751.3	54.9	8,099.8	790.6	573.9	725.9	7.1	4,091.7	54.9	2,246.7
Rice	13,343.1	6,753.9	506.2	6.8	46,028.5	66.6	30,652.1	3,701.1	1,873.4	506.2	6.8	12,767.2	66.6	8,502.1
Wheat	234,427.3	103,477.8	441.4	6.7	694,065.2	6.4	44,464.7	65,024.3	28,702.2	441.4	6.7	192,516.3	6.4	12,333.4
Total Cereals	364,032.2	157,373.1	432.3	6.0	944,422.9	12.5	118,037.5	100,973.4	43,651.4	423.0	7.4	261,959.2	12.5	32,740.6
Cotton	58,590.0	21,380.3	364.9	17.5	373,539.4	21.0	78,366.1	16,251.4	5,930.4	364.9	17.5	103,610.5	21.0	21,736.8
Opium Poppy	94,520.0	1,512.3	16.0	5,000.0	7,561,600.0	100.0	7,561,600.0	1,319.7	21.1	16.0	5,000.0	105,578.2	100.0	105,578.2
Total Cereals and Cash Crops	422,622.1	178,753.5			1,317,962.3		196,403.6	117,224.8	49,581.7			365,569.7		54,477.4
Vegetables	90,041.1	250,936.1	2,786.9		980,674.8	68.1	667,561.0	24,975.1	69,603.4	2,786.9		272,014.6	68.1	185,164.7
Bean (French)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bean (other veg)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Broadleaf must.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cabbage	48.8	34.1	700.0	4.5	153.6	90.0	138.3	13.5	9.5	700.0	4.5	42.6	90.0	38.3
Cauliflower	350.7	822.0	2,343.9	4.7	3,861.2	24.6	949.8	97.3	228.0	2,343.9	4.7	1,071.0	24.6	263.4
Chili	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cucumber	7,599.3	11,029.3	1,451.4	5.8	63,496.6	49.5	31,449.6	2,107.9	3,059.3	1,451.4	5.8	17,612.4	49.5	8,723.3
Eggplant	1,591.5	1,671.5	1,050.2	24.3	40,676.4	37.8	15,382.4	441.4	463.6	1,050.2	24.3	11,262.6	37.8	4,266.7
Garlic	1,003.2	794.5	792.0	30.7	24,373.6	61.5	14,999.4	278.3	220.4	792.0	30.7	6,760.6	61.5	4,160.5
Ginger	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green pea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Melon	3,227.3	6,255.2	1,938.2	17.2	107,796.3	92.3	99,522.3	895.2	1,735.0	1,938.2	17.2	29,900.0	92.3	27,605.0
Mellon, Water	10,211.1	17,362.1	1,700.3	5.8	100,913.6	47.3	47,732.0	2,832.3	4,815.8	1,700.3	5.8	27,990.9	47.3	13,239.7
Okra	6,680.0	12,383.9	1,853.9	12.7	156,848.3	58.9	92,385.2	1,852.9	3,435.0	1,853.9	12.7	43,505.8	58.9	25,625.3
Onion	46,806.5	172,341.6	3,682.0	0.9	149,324.0	197.8	295,318.1	12,982.9	47,803.2	3,682.0	0.9	41,418.7	197.8	81,913.8
Other leafy veg.	219.9	403.9	1,836.7	35.9	14,489.1	6.4	922.6	61.0	112.0	1,836.7	35.9	4,018.9	6.4	255.9
Potato	3,920.4	11,359.6	2,897.6	6.1	69,456.7	56.4	39,184.6	1,087.4	3,150.9	2,897.6	6.1	19,265.6	56.4	10,868.8
Pumpkin	85.6	202.2	2,363.3	156.7	31,682.3	1.6	508.0	23.7	56.1	2,363.3	156.7	8,787.9	1.6	140.9
Radish	979.0	3,408.1	3,481.3	16.4	55,978.2	1.2	684.9	271.5	945.3	3,481.3	16.4	15,527.0	1.2	190.0
Tomato	5,545.0	11,599.8	2,091.9	9.1	105,297.3	14.9	15,724.4	1,538.0	3,217.5	2,091.9	9.1	29,206.8	14.9	4,361.5
carrot	110.4	278.2	2,520.0	114.9	31,966.4	35.9	11,467.5	30.6	77.2	2,520.0	114.9	8,866.7	35.9	3,180.8
Turnep	257.6	787.4	3,057.1	27.3	21,476.9	0.9	199.2	71.4	218.4	3,057.1	27.3	5,957.1	0.9	55.3
Zagher	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugarcane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Narunge (Orange)	1,404.9	202.6	144.2	14.2	2,884.1	34.4	992.7	389.7	56.2	144.2	14.2	800.0	34.4	275.4
Legumes	1,820.7	298.1	163.7		4,215.0	23.7	1,000.3	505.0	82.7	163.7		1,169.1	23.7	277.5
Blackgram	1,404.9	202.6	144.2	14.2	2,884.1	34.4	992.7	389.7	56.2	144.2	14.2	800.0	34.4	275.4
Mung Bean	415.8	95.5	229.5	13.9	1,330.8	0.6	7.6	115.3	26.5	229.5	13.9	369.1	0.6	2.1
Lentil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chickpea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Soybean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Edible Oils	29,986.3	8,167.3	272.4		57,761.3	1.5	846.0	8,317.4	2,265.4	272.4		16,021.5	1.5	234.7
Mustard Seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Olive	23,989.3	7,177.8	299.2	7.0	50,553.7	1.2	608.0	6,654.0	1,990.9	299.2	7.0	14,022.3	1.2	168.6
Safflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sunflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cottonseed	5,997.0	989.5	165.0	7.3	7,207.6	3.3	238.0	1,663.4	274.5	165.0	7.3	1,999.2	3.3	66.0
Fruits	2,948.0	3,858.9	1,309.0		151,620.9	18.0	27,355.5	817.7	1,070.4	1,309.0		42,055.8	18.0	7,587.7
Apple	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apricot	7.4	13.2	1,800.0	15.0	198.7	1.0	1.9	2.0	3.7	1,800.0	15.0	55.1	1.0	0.5
Cherry	154.5	101.1	654.4	8.8	888.1	0.0	0.0	42.9	28.0	654.4	8.8	246.3	0.0	0.0
Grape, Fresh	1,434.9	1,972.3	1,374.6	6.5	12,852.7	8.4	1,075.6	398.0	547.1	1,374.6	6.5	3,565.0	8.4	298.4
Grape, Raisin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mulberry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Peach	357.0	232.4	650.9	7.5	1,741.1	1.2	20.6	99.0	64.5	650.9	7.5	482.9	1.2	5.7
Pear	97.4	259.4	2,664.5	5.6	1,441.4	18.6	268.0	27.0	72.0	2,664.5	5.6	399.8	18.6	74.3
Plum	79.4	235.5	2,964.6	11.5	2,703.4	2.9	78.2	22.0	65.3	2,964.6	11.5	749.9	2.9	21.7
Pomegranet	817.5	1,045.0	1,278.3	126.1	131,795.4	19.7	25,911.2	226.7	289.9	1,278.3	126.1	36,556.7	19.7	7,187.1
Nuts	1,083.7	1,934.9	1,785.4		57,190.2	61.0	34,911.2	300.6	536.7	1,785.4		15,863.1	61.0	9,683.5
Almond	105.7	222.0	2,100.0	30.0	6,661.1	50.0	3,330.5	29.3	61.6	2,100.0	30.0	1,847.6	50.0	923.8
Peanuts	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pistachio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walnut	978.0	1,712.9	1,751.4	29.5	50,529.1	62.5	31,580.7	271.3	475.1	1,751.4	29.5	14,015.5	62.5	8,759.7
Total Output Value	542,505.0	443,948.8			2,569,424.4	36.1	928,077.6	150,477.3	123,140.3			712,693.9	36.1	257,425.5
Total Output Value in US\$		@ Afs/\$	48.0		53,529,675.7		19,334,950.5					14,847,789.9		5,363,030.5

Table 2d. Nangarhar Province, Agriculture Production, Output and Sales Estimates Based on PRA Data, 2004

Unadjusted Extrapolation to Nangarhar Province							Unadjusted Extrapolation to Five Districts (PRA Survey Nov, 2004 of Bati Kot, Khogyani, Surkh Road, Rodat, Kama Districts)							
	Area Cropped Jeribs	Production (Mt)	Yield (Kg/Jb)	Farm Price (Afs/Kg)	Production Value ('000Afs)	% Production Marketed	Marketed Value (Afs'000)	Area Cropped (Jeribs)	Production (Mt)	Yield (Kg/Jb)	Farm Price (Afs/Kg)	Production Value (Afs '000)	% of Production Marketed ¹	Marketed Value (Afs '000)
Cereals and Cash Crops														
Barley	11,004.03	3,744.99	340.33	8.61	32,231.64	31.15	10,041.39	5,367.62	1,826.76	340.33	8.61	15,722.16	31.15	4,898.06
Maize	131,102.80	52,450.49	400.07	5.68	297,939.01	62.35	185,773.74	63,950.18	25,584.64	400.07	5.68	145,330.63	62.35	90,617.92
Millet	594.41	121.78	420.00	3.00	365.33	95.00	347.06	289.94	121.78	420.00	3.00	365.33	95.00	347.06
Rice (local)	1,442.77	605.96	420.00	11.00	6,665.59	65.00	4,332.64	703.76	295.58	420.00	11.00	3,251.39	65.00	2,113.40
Rice (improved)	445.38	236.05	530.00	9.50	2,242.47	35.00	784.86	217.25	115.14	530.00	9.50	1,093.85	35.00	382.85
Wheat (rainfed)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wheat (irrigated)	264,578.10	128,930.35	487.31	8.24	1,062,266.38	13.35	141,789.47	129,057.62	62,890.48	487.31	8.24	518,159.19	13.35	69,162.99
Total Cereals Crops	409,167.48	186,089.62	454.80	7.53	1,401,710.43	24.48	343,069.17	199,586.37	90,834.38	0.00	7.53	683,922.54	24.49	167,522.28
Cotton	33,374.19	6,902.36	206.82	17.11	118,109.78	58.44	69,020.40	16,279.48	5,933.41	207.22	17.11	101,529.53	58.44	59,331.32
Poppy	87,210.55	366.81	4.21	5,532.00	2,029,206.47	100.00	2,029,206.47	42,540.13	314.76	7.40	5,532.00	1,741,229.24	100.00	1,741,229.24
Total Cereals and Cash Crops	442,541.67	192,991.98	0.00	0.00	1,519,820.21	27.11	412,089.57	215,865.85	96,767.79	0.00	0.00	785,452.08	28.88	226,853.60
Vegetables	79,760.24	281,998.29	3,535.57		1,139,512.74	74.90	853,531.64	38,905.97	137,554.96	3,535.57		555,838.93	74.90	416,341.21
Cabbage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Carrot	821.13	2,967.82	3,614.30	1.95	5,801.84	79.17	4,593.12	400.54	1,447.66	3,614.30	1.95	2,830.06	79.17	2,240.46
Cauliflower	6,276.01	17,882.07	2,849.27	3.14	56,090.21	87.19	48,903.65	3,061.35	8,722.63	2,849.27	3.14	27,360.05	87.19	23,854.54
Chili	210.79	114.68	544.04	8.13	931.77	93.33	869.65	102.82	55.94	544.04	8.13	454.50	93.33	424.20
Cucumber	5,858.21	14,998.25	2,560.21	6.02	90,245.91	80.00	72,196.73	2,857.56	7,315.94	2,560.21	6.02	44,020.74	80.00	35,216.59
Cumin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eggplant	2,238.23	4,172.28	1,864.10	3.19	13,300.94	63.82	8,488.42	1,091.78	2,035.18	1,864.10	3.19	6,488.02	63.82	4,150.54
Garlic	906.88	1,210.25	1,334.52	10.51	12,720.15	65.80	8,369.86	442.36	590.34	1,334.52	10.51	6,204.72	65.80	4,082.70
Ginger	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Green pea	40.99	23.29	568.24	8.00	186.32	43.33	80.74	19.99	11.36	568.24	8.00	90.88	43.33	39.38
Melon	1,332.09	2,841.30	2,132.96	3.10	8,804.94	85.00	7,484.20	649.78	1,385.95	2,132.96	3.10	4,294.93	85.00	3,650.69
Naringe (Oranges)	230.93	385.33	1,668.61	3.58	1,378.96	92.50	1,275.54	112.65	187.96	1,668.61	3.58	672.64	92.50	622.19
Okra	5,846.72	8,469.40	1,448.57	5.94	50,317.50	56.54	28,448.74	2,851.95	4,131.26	1,448.57	5.94	24,544.20	56.54	13,876.91
Onion	15,540.59	48,406.54	3,114.85	3.76	182,039.15	67.62	123,093.14	7,580.49	23,612.06	3,114.85	3.76	88,796.24	67.62	60,043.17
Potato	4,005.03	9,116.58	2,276.28	6.46	58,865.22	79.29	46,671.71	1,953.60	4,446.95	2,276.28	6.46	28,713.66	79.29	22,765.83
Pumpkin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Radish	309.89	1,093.16	3,527.57	2.86	3,127.24	63.13	1,974.07	151.16	533.23	3,527.57	2.86	1,525.43	63.13	962.92
Spinach	3,012.70	5,086.47	1,688.34	4.03	20,475.26	81.18	16,622.18	1,469.55	2,481.11	1,688.34	4.03	9,987.55	81.18	8,108.08
Sugarcane	1,399.98	11,343.44	8,102.59	1.88	21,366.16	81.60	17,434.79	682.89	5,533.18	8,102.59	1.88	10,422.13	81.60	8,504.46
Tomato	17,526.75	79,129.98	4,514.81	4.83	382,306.14	70.36	268,979.67	8,549.31	38,598.53	4,514.81	4.83	186,483.77	70.36	131,204.65
Turnip	751.11	3,057.72	4,070.93	2.24	6,851.65	56.43	3,866.29	366.38	1,491.52	4,070.93	2.24	3,342.14	56.43	1,885.92
Watermelon	13,345.58	71,550.43	5,361.36	3.13	224,255.50	86.43	193,820.83	6,509.79	34,901.33	5,361.36	3.13	109,388.80	86.43	94,543.18
Potato (Farhangee)	106.64	149.30	1,400.00	3.00	447.89	80.00	358.31	52.02	72.82	1,400.00	3.00	218.47	80.00	174.78
Leak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Legumes	3,936.88	1,072.69	272.47		15,039.37	65.99	9,923.73	1,920.36	523.24	272.47		7,338.00	65.99	4,840.66
Mung Bean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chickpea	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Green Bean (Fossilia)	112.91	40.65	360.00	15.00	609.73	93.00	567.05	55.08	19.83	360.00	15.00	297.42	93.00	276.60
Beans (Red & White)	62.73	75.27	1,200.00	6.00	451.65	60.00	270.99	30.60	36.72	1,200.00	6.00	220.31	60.00	132.19
Lentil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cowpea	3,761.24	956.76	254.37	14.61	13,978.00	65.00	9,085.70	1,834.68	466.70	254.37	14.61	6,818.28	65.00	4,431.88
Vetch	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Edible Oils	41,052.29	2,960.95	72.13		12,807.54	66.52	8,519.11	20,024.75	1,444.31	72.13		6,266.04	66.52	4,167.91
Canola	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cotton Seed ²	41,025.90	2,956.60	72.07	4.31	12,733.51	66.33	8,446.56	20,011.88	1,442.19	72.07	4.32	6,229.93	66.33	4,132.52
Flax	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mustard Seed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Olive	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Safflower	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sesame	26.39	4.35	165.00	17.00	74.03	98.00	72.55	12.87	2.12	165.00	17.00	36.11	98.00	35.39
Sunflower	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fruits	3,492.27	1,545.23	442.47		13,158.50	51.66	6,797.99	1,703.48	753.74	442.47		6,418.54	51.66	3,315.97
Apple	543.83	326.30	600.00	11.75	3,833.98	41.25	1,581.52	265.27	159.16	600.00	11.75	1,870.16	41.25	771.44
Apricot	534.21	328.38	614.70	9.25	3,037.50	55.00	1,670.63	260.58	160.18	614.70	9.25	1,481.65	55.00	814.91
Cherry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grape, Fresh	532.26	359.27	675.00	7.00	2,514.91	39.00	980.81	259.63	175.25	675.00	7.00	1,226.74	39.00	478.43
Grape, Raisin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mulberry	1,123.60	0.00	0.00	0.00	0.00	0.00	0.00	548.08	0.00	0.00	0.00	0.00	0.00	0.00
Peach	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pear	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Plum	6.27	0.00	0.00	0.00	0.00	0.00	0.00	3.06	0.00	0.00	0.00	0.00	0.00	0.00
Pomegranate	752.10	531.28	706.40	7.10	3,772.11	68.00	2,565.04	366.86	259.15	706.40	7.10	1,839.99	68.00	1,251.19
Nuts	12,747													

Table 2e. Helmand, Agriculture Production: Output and Sales Estimates Based on PRA Data, 2003

	Unadjusted Extrapolation to Helmand Province							5.56	Unadjusted Extrapolation to 5 Districts						
	Jeribs	Tons	Yield (kg/jb)	Farm Price (af/kg)	Production Value Af '000	% of Production Marketed	Marketed Value Af '000	Jeribs	Tons	Yield (kg/jb)	Farm Price (af/kg)	Production Value Af '000	% of Production Marketed	Marketed Value Af '000	
Cereals and Cash Crops															
Barley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Maize (Hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Maize (Open Pol)	166,792.2	69,407.1	416.1	4.1	286,436.0	69.9	200,133.1	86,786.8	36,114.5	416.1	4.1	149,041.0	69.9	104,135.1	
Millet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rice	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Wheat	489,112.2	276,837.5	566.0	5.3	1,454,972.3	39.2	569,707.0	254,499.3	124,157.1	487.8	5.3	652,531.6	39.2	255,504.4	
Total Cereal Crops	655,904.3	346,244.6	527.9		1,741,408.3	44.2	769,840.1	382,644.7	174,018.3	454.8	5.3	930,529.7	52.5	488,596.5	
Cotton	79,485.4	26,419.0	332.4	9.4	247,837.4	100.0	247,837.4	41,358.6	13,746.6	332.4	9.4	128,957.0	100.0	128,957.0	
Opium Poppy	76,855.0	427.3	5.6	5,000.0	2,136,569.0	100.0	2,136,569.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Food and Cash Crops	735,389.7	372,663.6			1,989,245.7	51.2	1,017,677.5	424,003.3	187,764.9			1,059,486.7	58.3	617,553.5	
Vegetables	186,005.9	171,628.5	922.7		152,468.7	72.7	110,796.1	96,784.3	89,303.3	922.7		79,333.9	72.7	57,650.4	
Bean (French)	5,363.2	629.4	117.4	9.3	5,853.8	92.8	5,432.6	2,790.6	327.5	117.4	9.3	3,045.9	92.8	2,826.7	
Bean (other veg)	19,053.5	2,148.5	112.8	9.8	21,141.7	71.7	15,152.1	9,914.1	1,117.9	112.8	9.8	11,000.6	71.7	7,884.1	
Broadleaf must.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Cabbage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Cauliflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Chili	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Cucumber	15,989.5	29,948.2	1,873.0	0.7	21,802.7	74.9	16,327.4	8,319.8	15,582.9	1,873.0	0.7	11,344.6	74.9	8,495.6	
Eggplant	3,434.3	808.9	235.5	3.0	2,387.7	36.0	859.7	1,787.0	420.9	235.5	3.0	1,242.4	36.0	447.3	
Garlic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Ginger	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Green pea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Maize (Hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Mellon	44,489.8	48,489.6	1,089.9	0.9	41,826.0	75.7	31,676.7	23,149.3	25,230.6	1,089.9	0.9	21,763.3	75.7	16,482.3	
Mellon, Water	58,418.5	70,986.6	1,215.1	0.3	19,628.4	58.7	11,513.8	30,396.8	36,936.4	1,215.1	0.3	10,213.2	58.7	5,990.9	
Okra	15,133.6	3,401.6	224.8	1.2	3,935.9	46.8	1,842.6	7,874.4	1,770.0	224.8	1.2	2,048.0	46.8	958.7	
Onion	4,756.6	6,866.3	1,443.5	2.2	15,432.4	82.3	12,700.6	2,475.0	3,572.8	1,443.5	2.2	8,029.9	82.3	6,608.5	
Other leafy veg.	2,860.7	4,951.3	1,730.8	1.2	5,987.3	41.1	2,461.5	1,488.5	2,576.3	1,730.8	1.2	3,115.4	41.1	1,280.8	
Potato	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pumpkin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Radish	210.3	94.6	450.0	20.6	1,945.9	80.0	1,556.7	109.4	49.2	450.0	20.6	1,012.5	80.0	810.0	
Tomato	9,165.2	2,845.6	310.5	1.5	4,200.7	74.8	3,140.8	4,768.9	1,480.7	310.5	1.5	2,185.7	74.8	1,634.2	
carrot	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turnep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Zagher	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Cumin	7,130.7	457.8	64.2	18.2	8,326.3	97.7	8,131.7	3,710.3	238.2	64.2	18.2	4,332.4	97.7	4,231.1	
Sugar Cane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Naringe (Oranges)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Legumes	145,514.6	24,702.8	169.8		354,857.5	77.0	273,217.5	75,715.5	12,853.6	169.8		184,642.7	77.0	142,163.0	
Blackgram	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Mung Bean	145,124.7	24,599.5	169.5	14.4	353,721.0	76.9	272,137.9	75,512.6	12,799.8	169.5	14.4	184,051.3	76.9	141,601.3	
Lentil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Chickpea	389.9	103.3	265.0	11.0	1,136.5	95.0	1,079.7	202.9	53.8	265.0	11.0	591.3	95.0	561.8	
Soybean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Edible Oils	278.5	123.6	444.0		2,188.5	90.0	1,969.7	144.9	64.3	444.0		1,138.8	90.0	1,024.9	
Mustard Seed	278.5	123.6	444.0	17.7	2,188.5	90.0	1,969.7	144.9	64.3	444.0	17.7	1,138.8	90.0	1,024.9	
Olive	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Safflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sunflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Colton Seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fruits	11,661.1	16,247.7	1,393.3		181,422.6	72.2	131,076.0	6,067.6	8,454.1	1,393.3		94,399.5	72.2	68,202.7	
Apple	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Apricot	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Cherry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Grape, Fresh	8,922.0	13,178.1	1,477.0	11.2	148,214.2	72.3	107,090.0	4,642.4	6,856.9	1,477.0	11.2	77,120.2	72.3	55,722.1	
Grape, Raisin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Mulberry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Peach	210.3	94.6	450.0	6.0	567.9	80.0	454.3	109.4	49.2	450.0	6.0	295.5	80.0	236.4	
Pear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Plum	9.8	4.4	450.0	5.0	22.1	60.0	13.3	5.1	2.3	450.0	5.0	11.5	60.0	6.9	
Pomegranet	2,519.0	2,970.5	1,179.3	11.0	32,618.5	72.1	23,518.5	1,310.7	1,545.7	1,179.3	11.0	16,972.3	72.1	12,237.3	
Nuts	31,979.8	14,385.5	449.8		208,059.1	99.8	207,651.3	16,640.0	7,485.2	449.8		108,259.2	99.8	108,047.0	
Almond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pistachio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Peanuts	12,613.6	6,844.7	542.6	14.4	98,753.3	100.0	98,753.3	6,563.2	3,561.5	542.6	14.4	51,384.2	100.0	51,384.2	
Walnut	19,366.2	7,540.8	389.4	14.5	109,305.9	99.6	108,898.1	10,076.8	3,923.7	389.4	14.5	56,875.0	99.6	56,662.8	
Total Output Value	1,110,829.6	599,751.7			2,888,242.1	60.3	1,742,388.1	619,355.6	305,925.4			1,527,260.7	65.1	994,641.6	
Total Output Value in US\$	Rate:	48.0			60,171,711.1		36,299,752.3					31,817,931.7		20,721,700.0	

Table 2e. Helmand, Agriculture Production: Output and Sales Estimates Based on PRA Data,2004

	Unadjusted Extrapolation to Helmand Province						Unadjusted Extrapolation to Five Districts (PRA Survey Nov, 2004 of Naway, Gamser, Nad Ali, Lashkargar, Nahri Saraj Gresk Districts)							
	Area Cropped (Jenibs)	Production (Mt)	Yield (Kg/Jb)	Farm Price (Afs/Kg)	Production Value (Afs '000)	% of Production Marketed ¹	Marketed Value (Afs '000)	Area Cropped (Jenibs)	Production (Mt)	Yield (Kg/Jb)	Farm Price (Afs/Kg)	Production Value (Afs '000)	% of Production Marketed ¹	Marketed Value (Afs '000)
Cereals and Cash Crops														
Barley	15,715.0	3,720.5	236.8	12.7	47,406.5	59.2	28,079.2	10,266.7	2,473.5	240.9	12.6	31,057.8	59.2	16,395.8
Maize	206,876.7	90,915.2	439.5	8.6	784,754.0	76.9	603,513.2	135,153.4	57,658.9	426.6	8.6	495,312.4	76.9	380,918.8
Millet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rice	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wheat	558,745.0	184,385.8	330.0	7.0	1,292,498.2	33.3	430,143.4	365,030.3	148,784.9	407.6	6.9	1,030,738.6	33.3	343,029.8
Total Cereals Crops	781,336.6	279,021.5	357.1	7.6	2,124,658.7	50.0	1,061,735.8	510,450.3	208,917.3	409.3	7.5	1,557,108.8	47.7	742,344.4
Cotton	87,003.8	35,232.3	405.0	14.0	492,082.3	99.2	488,145.6	56,839.9	23,070.0	405.9	14.0	322,141.0	99.2	319,563.9
Opium Poppy	146,765.0	816.0	5.6	4,500.0	3,672,060.3	100.0	3,672,060.3	47,983.4	266.8	5.6	4,500.0	1,200,544.3	100.0	1,200,544.3
Total Cereals and Cash Crops	868,340.4	314,253.8			2,616,740.9	59.2	1,549,881.4	567,290.3	231,987.4			1,879,249.8	56.5	1,061,908.3
Vegetables	134,589.3	326,380.3	2,425.0		1,052,835.6	75.4	793,675.5	87,927.8	219,673.4	2,498.3		702,734.9	75.3	529,075.0
Cabbage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carrot	5,689.2	16,054.0	2,831.8	2.1	34,208.7	53.9	18,434.7	3,703.7	10,153.7	2,741.5	2.1	21,557.0	53.9	11,616.9
Cauliflower	2,018.4	2,461.5	1,219.5	0.0	0.0	60.3	0.0	1,318.7	1,653.4	1,253.9	0.0	3,240.2	60.3	1,952.2
Chili	160.5	69.5	433.2	11.0	764.4	70.0	535.1	104.9	48.4	461.7	10.8	521.6	70.0	365.1
Cucumber	5,439.2	13,449.1	2,472.6	3.1	41,115.2	79.2	32,569.1	3,553.5	9,687.4	2,726.2	3.0	29,096.5	79.2	23,048.6
Cumin	492.2	44.6	90.7	0.0	0.0	99.3	0.0	321.6	29.4	91.6	0.0	355.0	99.3	352.6
Eggplant	2,334.8	2,403.2	1,029.3	4.3	10,313.9	50.3	5,191.4	1,525.3	1,558.5	1,021.7	4.3	6,702.6	50.3	3,373.6
Garlic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ginger	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green pea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Melon	23,365.4	33,159.5	1,419.2	4.7	154,874.5	75.6	117,123.8	15,264.7	22,001.9	1,441.4	4.6	101,076.2	75.6	76,438.9
Naringe (Oranges)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Okra	5,296.8	4,097.8	773.6	5.8	23,942.7	57.1	13,671.3	3,460.4	2,680.8	774.7	6.3	16,863.7	57.1	9,629.2
Onion	6,865.0	7,540.0	1,098.3	3.3	25,245.5	60.7	15,320.9	4,485.0	4,966.4	1,107.3	3.4	17,022.5	60.7	10,330.5
Potato	934.7	2,207.4	2,361.5	5.0	11,012.6	45.0	4,955.7	610.7	1,437.6	2,354.2	5.1	7,307.4	45.0	3,288.3
Pumpkin	50.2	90.3	1,799.4	4.4	399.0	40.0	159.6	32.8	59.0	1,799.1	4.4	260.5	40.0	104.2
Radish	421.2	365.5	867.8	2.0	724.9	52.4	379.8	275.2	234.5	852.1	2.2	513.3	52.4	269.0
Spinach	1,172.7	1,063.7	907.1	1.5	1,640.4	45.1	739.7	766.1	684.4	893.3	1.7	1,180.7	45.1	532.4
Sugarcane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tomato	5,000.7	11,932.9	2,386.3	4.2	50,398.7	51.3	25,843.3	3,266.9	7,922.4	2,425.0	4.4	34,741.5	51.3	17,814.7
Turnip	129.9	152.9	1,177.5	2.6	404.1	49.3	199.3	84.9	110.3	1,299.3	2.6	291.6	49.3	143.8
Watermelon	75,224.4	231,283.2	3,074.6	3.0	697,747.0	80.0	558,529.8	49,144.4	156,441.9	3,183.3	3.0	461,975.8	80.0	369,800.6
Sugarbeet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Leak	14.0	4.9	350.0	9.0	44.1	50.0	22.0	9.1	3.2	350.0	9.0	28.8	50.0	14.4
Legumes	143,014.7	25,665.6	179.5		328,455.5	62.3	204,936.3	93,432.1	16,978.0	181.7		223,847.2	62.4	139,615.8
Mung Bean	512.0	71.7	140.0	30.0	2,150.2	16.0	344.0	334.5	46.8	140.0	30.0	1,404.7	16.0	224.8
Chickpea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Bean (Fossilia)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Beans (Red & White)	8,248.9	2,108.3	255.6	14.4	30,362.6	71.2	21,622.5	5,389.1	1,381.1	256.3	14.4	19,849.7	71.2	14,135.8
Lentil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cowpea	134,253.8	23,485.6	174.9	12.6	295,942.7	61.8	182,969.8	87,708.5	15,550.1	177.3	13.0	202,592.8	61.8	125,255.2
Vetch	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Edible Oils	605.3	182.8	302.0		3,505.2	97.6	3,423.3	395.5	114.8	290.4		2,202.5	97.7	2,151.2
Canola	23.3	10.5	450.0	22.0	230.8	100.0	230.8	15.2	6.9	450.0	22.0	150.8	100.0	150.8
Cotton Seed ²	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mustard Seed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Olive	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Safflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sesame	582.0	172.3	296.1	19.0	3,274.4	97.5	3,192.5	380.2	108.0	284.0	19.0	2,051.7	97.5	2,000.4
Sunflower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fruits	17,212.4	31,431.1	1,826.1		331,215.7	67.2	222,883.7	11,244.9	21,443.7	1,907.0		225,560.5	67.3	151,751.8
Apple	93.2	0.0	0.0	0.0	0.0	0.0	0.0	60.9	0.0	0.0	0.0	0.0	0.0	0.0
Apricot	140.1	86.2	615.5	9.4	811.6	46.0	373.4	91.5	66.8	730.2	9.9	658.8	46.0	303.0
Cherry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grape, Fresh	13,397.4	24,079.3	1,797.3	11.7	282,589.9	67.0	189,335.2	8,752.6	16,467.7	1,881.5	11.7	192,776.8	67.0	129,160.5
Grape, Raisin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mulberry	678.3	194.6	286.8	3.0	583.7	0.0	0.0	443.2	127.5	287.6	3.0	382.4	0.0	0.0
Peach	321.5	158.1	491.7	2.0	316.1	0.0	0.0	210.0	111.8	532.3	2.0	223.6	0.0	0.0
Pear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Plum	93.2	0.1	1.0	0.0	0.0	0.0	0.0	60.9	0.1	1.0	0.0	0.0	0.0	0.0
Pomegranate	2,488.5	6,912.8	2,777.9	6.8	46,914.4	70.7	33,175.2	1,625.7	4,669.8	2,872.4	6.7	31,518.8	70.7	22,288.3
Nuts	26,552.9	8,532.6	321.3		100,883.3	95.2	96,006.8	17,347.1	5,574.4	321.3		65,907.8	95.2	62,721.9
Almond	1,103.3	176.6	160.1	35.0	6,182.5	87.5	5,409.7	720.8	115.4	160.1	35.0	4,039.3	87.5	3,534.4
Peanut	25,449.6	8,356.0	328.3	11.3	94,700.8	95.7	90,597.1	16,626.3	5,459.0	328.3	11.3	61,868.4	95.7	59,187.5
Walnut	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Output Value Less Poppy in US\$	1,190,315.0	706,446.2			4,433,636.1	64.8	2,870,807.1	777,637.6	498,771.7			3,099,502.6	62.8	1,947,224.0
Output			@ Afs/\$	46.0	96,383,394.5		62,408,849.7					67,380,492.1		42,330,957.1
Total			@ Afs/\$	48.0	92,367,419.7		59,808,481.0					64,572,971.6		40,567,167.2
Output	1,110,829.6	599,751.7	@ Afs/\$	48.0</										

Table 3A. Irrigated Wheat Area and Yield Changes, 2003 and 2004 Compared (Estimates from FAO)

	Irrigated Cropped Area ('000 Jbs)			Irrigated Yield (Kg/Jb)		
	2003	2004	+/- Change (%)	2003	2004	+/- Change (%)
Kunduz	500	425	-15.0	674	466	-30.9
Parwan	155	100	-35.5	728	500	-31.3
Ghazni	280	195	-30.4	644	334	-48.1
Nangarhar	200	185	-7.5	430	336	-21.9
Helmand	370	370	0.00	566	330	-41.7
Total	1505.00	1275.00	-15.28	608.40	393.20	-35.37

B. Adjusted Wheat Area and Output, 2004

	Area Cropped (⁰⁰⁰ Jbs)	Production (Mt)	Yield (Kg/Jb)	Farm Price (Afs/Kg)	Production Value (Afs ⁰⁰⁰)	% of Production Marketed	Marketed Value (Afs ⁰⁰⁰)
Kunduz	425.0	198,050.0	466	5.6	1,109,080.0	25.2	279,488.2
Kunduz	60.0	9,600.0	160	5.0	48,000.0	70.0	33,600.0
Parwan	100.0	50,000.0	500	8.3	415,000.0	3.6	14,940.0
Ghazni	195.0	65,130.0	334	10.8	703,404.0	2.8	19,695.3
Nangarhar	185.0	62,160.0	336	8.2	509,712.0	24.5	124,752.2
Helmand	370.0	122,100.0	330	7.0	854,700.0	13.3	114,083.9
Total 2004	1,335.0	507,040.0	379.8	7.2	3,639,896.0	16.1	586,559.5
Total 2003^a	1,590.0	663,818.0	430.6	6.5	4,314,817.0	36.0	1,552,618.9

a: Total area for 2003 includes both irrigated and rainfed

C. Wheat Area (irrigated and rainfed), Output and Output Value Foregone in 2004

	Area Lost (⁰⁰⁰ Jbs) ¹	Production (Mt)	Yield (Kg/Jb)	Farm Price (Afs/Kg)	Potential Production Value (Afs ⁰⁰⁰)	Potential Marketed Surplus %	Marketed Surplus Value (Afs ⁰⁰⁰)
Kunduz	75.0	34,950.0	466.0	5.6	195,720.0	25.2	49,321.4
Parwan	55.0	27,500.0	500.0	8.3	228,250.0	3.6	8,217.0
Parwan (rainfed) ²	20.0	3,200.0	160.0	7.5	24,000.0	70.0	16,800.0
Ghazni (rainfed) ²	5.0	1,670.0	334.0	10.8	18,036.0	2.8	505.0
Ghazni	85.0	13,600.0	160.0	7.9	107,440.0	60.0	64,464.0
Nangarhar	15.0	5,040.0	336.0	8.2	413,280.0	24.5	10,115.0
Helmand	0.0	70,818.0	191.4	7.0	495,726.0	13.3	66,168.6
Total 2004	255.0	156,778.0			1,110,500.0	19.4	215,591.1

1. Net area lost due to weather, etc

2. This is rainfed area not cultivated in 2004, the output of which is considered as income forgone

Tbale 4. Adjusted Barley Area, Output and Income Forgone, 2004

Adjusted 2003 PRA					Adjusted 2004 PRA					Difference
Province/Region	Area Cropped ('000Jbs)	Production (Mt)	Yield (Kg/Jb)	Production Value (Afs'000)	Farm Price (Afs/Kg)	Area Cropped ('000Jbs)	Yield (Kg/Jb)	Production (Mt)	Production Value ('000Afs)	Value ('000Afs)
Kunduz	154.00	53,900.00	350.00	404,250.00	5.80	100.41	307.13	30,837.81	178,859.28	(225,390.72)
Parwan	1.00	522.00	522.00	2,610.00	7.80	0.65	458.06	298.65	2,329.48	(280.52)
Ghazni	1.50	642.00	428.00	3,787.80	7.43	0.98	375.57	367.31	2,729.09	(1,058.71)
Nangarhar	0.00	0.00	0.00	0.00	8.61	0.20	289.30	57.86	498.17	498.17
Helmand	0.00	0.00	0.00	0.00	8.70	0.25	386.10	96.53	839.77	839.77
Total	156.50	55,064.00	351.85	410,647.80	7.46	102.49	308.90	31,658.15	185,255.80	(225,392.00)
Net Output Loss (Mt)										(23,405.85)
Output/Income Loss at Constant Rate, US\$	Rate: Afs/US\$			8,555,162.50	48.00				3,859,495.87	(4,695,666.63)
Output/Income Loss at Current Rate, US\$	Rate: Afs/US\$			8,927,126.09	46.00				4,027,300.04	(4,899,826.05)
									Impact	-54.9%

Table 5. Adjusted Maize Area, Output and Income Forgone, 2004

Adjusted 2003 PRA					Adjusted 2004 PRA					Difference
Province/Region	Area Cropped ('000Jbs)	Production (Mt)	Yield (Kg/Jb)	Production Value (Afs'000)	Farm Price (Afs/Kg)	Area Cropped ('000Jbs)	Yield (Kg/Jb)	Production (Mt)	Production Value ('000Afs)	Value ('000Afs)
Kunduz	42.00	25,200.00	600.00	85,680.00	4.00	36.35	526.50	19,136.25	76,545.00	(9,135.00)
Parwan	40.25	24,150.00	600.00	94,185.00	5.07	34.83	526.50	18,338.91	92,978.25	(1,206.75)
Ghazni ¹	0.00	0.00	0.00	0.00	8.00	1.73	36.10	62.46	499.67	499.67
Nangarhar ²	62.50	37,250.00	596.00	156,450.00	5.70	54.09	522.99	28,286.72	161,234.30	4,784.30
Helmand ²	22.50	13,500.00	600.00	55,350.00	8.60	19.47	526.50	10,251.56	88,163.44	32,813.44
Total	167.25	100,100.00	598.51	391,665.00	3.91	146.47	519.41	76,075.90	419,420.66	27,755.66
Net Output Loss (Mt)										(24,024.10)
Output/Income Loss at Constant Rate, US\$	Rate: Afs/US\$			8,159,687.50	48.00				8,737,930.34	578,242.84
Output/Income Loss at Current Rate, US\$	Rate: Afs/US\$			8,514,456.52	46.00				9,117,840.35	603,383.83
									Impact	7.1%

1. Maize grown largely for animal feed

2. 2004 PRA area for Nangarhar and Helmand exceedingly higher than even the regional total - hence adjusted downward based on FAO regional average. Area for the other provinces was also adjusted downward following the FAO estimate. Likewise area and yield for 2003 have been adjusted as per the FAO regional average. Adjustment factors are given in the text

Table 6. Adjusted Vegetable Area, Output and Income Forgone, 2004

Province/Region	Adjusted 2003 PRA				Adjusted 2004 PRA					Difference
	Area Cropped (Jbs)	Production (Mt)	Yield (Kg/Jb)	Production Value (Afs'000)	Farm Price (Afs/Kg)	Area Cropped (Jbs)	Yield (Kg/Jb)	Production (Mt)	Production Value ('000Afs)	Value ('000Afs)
Kunduz	167,816.70	353,999.71	2,109.44	920,399.25	3.40	120,424.67	3,670.72	442,045.56	1,502,954.90	582,555.65
Parwan	55,148.86	136,973.89	2,483.71	794,448.55	4.80	29,044.94	3,687.57	107,105.35	514,105.68	(280,342.87)
Ghazni	61,349.13	182,972.82	2,982.48	567,215.75	11.00	39,148.49	1,989.03	77,867.47	856,542.12	289,326.37
Nangarhar	90,041.10	250,936.12	2,786.91	978,650.86	4.04	79,760.24	3,535.57	281,998.29	1,139,273.09	160,622.22
Helmand	186,005.92	171,628.48	922.70	154,465.63	3.20	134,589.34	2,425.01	326,380.29	1,044,416.92	889,951.29
Total	560,361.72	1,096,511.02	1,956.79	3,415,180.04	3.11	402,967.68	3,065.75	1,235,396.95	5,057,292.71	1,642,112.66
Net Output Loss (Mt)										138,885.93
Output/Income Loss at Constant Rate, US\$	Rate: Afs/US\$			71,149,584.3	48.0				105,360,264.72	34,210,680.47
Output/Income Loss at Current Rate, US\$	Rate: Afs/US\$			74,243,044.4	46.0				109,941,145.80	35,698,101.36
									Impact	48.1%

Table 7. Adjusted Legumes Area, Output and Income Forgone, 2004

Adjusted 2003 PRA					Adjusted 2004 PRA					Difference
Province/Region	Area Cropped (Jbs)	Production (Mt)	Yield (Kg/Ha)	Production Value (Afs'000)	Farm Price (Afs/Kg)	Area Cropped (Jbs)	Yield (Kg/Jb)	Production (Mt)	Production Value ('000Afs)	Value ('000Afs)
Kunduz	185,367.72	37,881.54	204.36	390,179.84	12.80	157,442.48	173.66	27,340.88	349,963.21	(40,216.62)
Parwan	13,436.68	2,898.01	215.68	57,670.40	9.00	14,010.73	174.84	2,449.59	22,046.32	(35,624.09)
Ghazni	38,049.41	8,736.47	229.61	73,386.36	8.70	51,366.71	215.46	11,067.26	96,285.16	22,898.80
Nangarhar	1,820.74	298.07	163.71	4,202.81	14.02	3,936.88	272.47	1,072.69	15,039.09	10,836.28
Helmand	145,514.60	24,702.78	169.76	355,719.97	12.79	143,014.69	179.46	25,665.60	328,263.08	(27,456.89)
Total 2004	384,189.15	74,516.87	193.96	881,159.38	11.82	369,771.49	182.80	67,596.02	811,596.86	(69,562.52)
Net Output Loss (Mt)										(6,920.85)
Output/Income Loss at Constant Rate, US\$	Rate: Afs/US\$			18,357,487.09	48.00				16,908,267.90	(1,449,219.20)
Output/Income Loss at Current Rate, US\$	Rate: Afs/US\$			19,155,638.70	46.00				17,643,409.98	(1,512,228.73)
2004 area for Ghazni adjusted upward by 35% over the 2003 area									Impact	-7.9%

Table 8. Adjusted Edible Oils Area, Output and Income Forgone, 2004

Adjusted 2003 PRA					Adjusted 2004 PRA					Difference
Province/Region	Area Cropped (Jbs)	Production (Mt)	Yield (Kg/Jb)	Production Value (Afs'000)	Farm Price (Afs/Kg)	Area Cropped (Jbs)	Yield (Kg/Jb)	Production (Mt)	Production Value ('000Afs)	Value ('000Afs)
Kunduz	23,720.12	4,791.67	202.01	63,250.09	18.00	55,062.50	251.70	13,859.20	249,465.65	186,215.56
Parwan	6,668.15	1,193.46	178.98	13,844.18	6.70	3,091.16	274.64	848.95	5,687.98	(8,156.20)
Ghazni	8,784.30	3,788.69	431.30	56,451.50	11.90	346.07	714.89	247.40	2,944.10	(53,507.39)
Nangarhar	29,986.27	8,167.35	272.37	57,988.16	4.33	20,024.75	118.97	2,382.24	10,315.12	(47,673.04)
Helmand	278.48	123.65	444.00	2,188.52	19.13	605.32	302.03	182.83	3,497.46	1,308.94
Total	69,437.32	18,064.82	260.16	193,722.44	10.72	79,129.81	252.32	17,520.63	271,910.31	78,187.87
Net Output Loss (Mt)										(544.19)
Output/Income Loss at Constant Rate, US\$	Rate: Afs/US\$			4,035,884.22	48.00				5,664,798.13	1,628,913.91
Output/Income Loss at Current Rate, US\$	Rate: Afs/US\$			4,211,357.45	46.00				5,911,093.70	1,699,736.25
Area for Kunduz adjusted down by 50% of the 2004 PRA survey; the 2004 PRA yield for Ghazni adjusted upward by 65%.									Impact	40.4%

Table 9. Fruit Area and Output 2003 and 2004 PRA Surveys Compared

	Area (Ha)			Production (Mt)			
	2003	2004	+/- Change (%)	2003	2004	+/- Change (%)	Adjustment Factor
Kunduz	6,786.73	8,530.36	25.69	20,691.80	18,193.07	(12.08)	15.0%
Parwan	77,796.49	79,272.35	1.90	380,776.42	311,981.91	(18.07)	30.0%
Ghazni	30,136.75	41,407.37	37.40	66,362.24	3,753.13	(94.34)	45.0%
Nangarhar	2,948.0	3,492.3	18.46	3,858.9	1,545.2	(59.96)	10.0%
Helmand	11,661.09	41,407.37	255.09	16,247.67	29,604.39	82.21	10.0%
Total	129,329.02	174,109.72	34.63	487,937.04	365,077.73	(25.18)	

Adjusted Fruit Area and Output and Income Foregone, 2004

Adjusted 2003 PRA				Adjusted 2004 PRA				Difference
Adjusted Area Planted (Jbs) (Kg/Jb)	Adjusted Yield (Kg/Jb)	Realised Production (Mt)	Realised Production Value (000Afs)	Adjusted Production (Mt)	Farm Price (Afs/Kg)	Adjusted Production Value (Afs'000)	Value (000Afs)	
Kunduz	6,786.73	3049	20,691.80	229,678.96	17,588.03	10.30	181,156.69	(48,522.27)
Parwan	77,796.49	4895	380,776.42	3,236,599.61	266,543.50	9.54	2,542,824.96	(693,774.65)
Ghazni	30,136.75	2202	66,362.24	643,713.75	36,499.23	7.00	255,494.63	(388,219.12)
Nangarhar	2,947.96	1309	3,858.90	47,078.57	3,473.01	8.5	29,520.58	(17,557.99)
Helmand	11,661.09	1393	16,247.67	181,973.94	14,622.91	10.50	153,540.51	(28,433.43)
Total Adjusted	129,329.02	3773	487,937.04	4,339,044.82	338,726.67	9.34	3,162,537.38	(1,176,507.45)
Weather-Induced Loss 0.00								(1,176,507.45)
Output/Income Loss at								
Constant Rate, US\$	Rate: Afs/US\$		48.00					(24,510,571.81)
Output/Income Loss at								
Current Rate, US\$	Rate: Afs/US\$		46.00					(25,576,248.85)
Impact							-27.1%	

The 2004 output data has been adjusted downward using "adjustment factors" constructed by extrapolating from the FAO crop assessment survey; no adjustment was made to area

Table 10. Nut Area and Output 2003 and 2004 PRA Surveys Compared

	Area (Jeribs)			Production (Mt)			Adjustment Factor
	2003	2004	+/- Change (%)	2003	2004	+/- Change (%)	
Kunduz	4,645.30	3,786.55	(18.49)	8,514.08	977.25	(88.52)	20.0%
Parwan	22,118.98	8,425.51	(61.91)	32,504.54	5,901.20	(81.84)	30.0%
Ghazni	36,448.74	780.15	(97.86)	37,631.96	316.04	(99.16)	45.0%
Nangarhar	1,083.7	12,747.5	1,076.25	1,934.9	7,262.0	275.32	5.0%
Helmand	31,979.78	26,552.89	(16.97)	14,385.52	8,036.70	(44.13)	5.0%
Total	96,276.54	52,292.65	(45.68)	94,970.99	22,493.22	(76.32)	

Adjusted Nut Area and Output and Income Foregone, 2004

	Adjusted 2003 PRA				Adjusted 2004 PRA			Difference Value (000Afs)
	Adjusted Area Planted (Jbs)	Adjusted Yield (Kg/Jb)	Realised Production (Mt)	Realised Production Value (000Afs)	Adjusted Production (Mt)	Farm Price (Afs/Kg)	Adjusted Production Value (Afs'000)	
Kunduz	4,645.30	1833	8,514.08	825,865.6	6,811.26	85.00	578,957.33	(246,908.27)
Parwan	22,118.98	1470	32,504.54	1,079,150.7	22,753.18	78.00	1,774,747.83	695,597.14
Ghazni	36,448.74	405	37,631.96	1,580,542.5	20,697.58	42.00	869,298.38	(711,244.13)
Nangarhar	1,083.75	1785	1,934.89	57,272.6	1,838.14	19.12	35,145.28	(22,127.36)
Helmand	31,979.78	450	14,385.52	208,590.0	13,666.24	11.82	161,535.00	(47,055.03)
Total Adjusted	96,276.54	986	94,970.99	4,938,246.9	65,766.41	52.00	3,419,683.81	(331,737.66)
Weather-Induced Loss	0.00				(29,204.58)			(1,518,563.07)
Output/Income Loss at Constant Rate, US\$	Rate: Afs/US\$		48.00					(31,636,730.55)
Output/Income Loss at Current Rate, US\$	Rate: Afs/US\$		46.00					(33,012,240.58)
Impact								-30.8%

Nut prices show marked difference between provinces because of the difference in the output composition. The 2004 area taken as constant and output adjusted downward by "adjustment factors". The construction of the adjustment factors follows the same logic to that of fruit.

Table 11. Summary, Agriculture Production, 2003 and 2004 Compared (Parwan, Kunduz, Ghazni, Helmand and Nangarhar Provinces)

Adjusted 2003 PRA			Adjusted 2004 PRA			Difference (2004/2003)		Adjusted for Growth, 2004		
Cropped			Cropped							
Area (Jbs)	Production (Mt)	Production Value (Afs'000)	Area (Jbs)	Production (Mt)	Production Value (Afs'000)	Production Value (Percent)	Production Value (Afs'000)	Net Production (Mt)	Production Value (000 Afs)	
Barley	156,500.0	55,064.0	410,647.8	102,488.0	31,658.2	185,255.8	-54.9%	(225,392.0)	1,541.8	9,022.2
Maize	167,250.0	100,100.0	391,665.0	146,465.6	76,075.9	419,420.7	7.1%	27,755.7	2,802.8	15,452.4
Millet ¹	11,996.6	4,629.9	27,556.2	611.5	121.8	365.3	-98.7%	(27,190.9)	9.3	27.8
Rice	387,491.2	155,384.0	2,237,529.2	494,385.32	165,685.9	1,988,230.7	-11.1%	(249,298.5)	8,629.6	103,555.6
Wheat	1,590,000.0	663,818.0	4,314,817.0	1,335,000.0	507,040.0	3,639,896.0	-15.6%	(674,921.0)	27,216.5	195,379.8
	2,313,237.8	978,995.9	7,382,215.2	2,078,950.4	780,581.7	6,233,168.5	-15.6%	(1,149,046.7)	40,200.0	323,437.7
Cotton ¹	199,870.2	81,636.7	1,079,567.3	175,840.7	55,821.0	835,895.6	-22.6%	(243,671.7)	1,714.4	25,672.0
Wash Crop	2,513,108.0	1,060,632.5	8,461,782.5	2,254,791.1	836,402.7	7,069,064.1	-16.5%	(1,392,718.39)	41,914.4	349,109.7
Vegetables	560,361.7	1,096,511.0	3,415,180.0	402,967.7	1,235,397.0	5,057,292.7	48.1%	1,642,112.7	32,895.3	134,662.2
Legumes	384,189.1	74,516.9	881,159.4	369,771.5	67,596.0	811,596.9	-7.9%	(69,562.5)	2,086.5	25,051.4
Edible Oils	69,437.3	18,064.8	193,722.4	79,129.8	17,520.6	271,910.3	40.4%	78,187.9	505.8	7,850.0
Fruits	129,329.0	487,937.0	4,339,044.8	129,329.0	338,726.7	3,162,537.4	-27.1%	(1,176,507.4)	10,246.7	95,668.6
Nuts	96,276.5	94,971.0	4,938,246.9	96,276.5	65,766.4	3,419,683.8	-30.8%	(1,518,563.1)	1,994.4	103,703.2
	1,239,593.7	1,772,000.7	13,767,353.6	1,077,474.5	1,725,006.7	12,723,021.1		(1,044,332.5)	47,728.7	366,935.4
	3,752,701.7	2,832,633.3	22,229,136.1	3,332,265.7	2,561,409.4	19,792,085.2	-11.0%	(2,437,050.9)	89,643.1	716,045.1
in US\$		483,242,088.2	Afs/US\$	46.0	430,262,721.0		(52,979,367.2)		15,566,196.9	
in US\$			Afs/US\$	48.0			412,335,107.6		14,917,605.4	
rate in US\$							463,107,001.2			
2004							(50,771,893.57)			

¹ Data not available to make adjustments; hence the 2004 PRA data are taken as given.

Table 13. Summary, Agriculture Production, 2003 and 2004 Compared (Parwan, Kunduz, Ghazni, Helmand and Nangarhar Provinces)

	Unadjusted 2003 PRA			Undjusted 2004 PRA			Difference		Adjusted for Growth, 2004	
	Cropped			Cropped						
	Area (Jbs)	Production (Mt)	Production Value (Afs'000)	Area (Jbs)	Production (Mt)	Production Value (Afs'000)	Production (Percent)	Production Value (Afs'000)	Net Production (Mt)	Production Value (000 Afs)
Cereals and Cash Crops										
Barley	16,914.7	5,639.7	37,558.1	138,085.4	33,422.0	244,812.6	* 6.5 times	207,254.5	157.9	1,156.7
Maize	369,701.8	152,700.7	609,471.8	414,693.5	158,451.7	1,152,883.4	89.2%	543,411.6	4,275.6	31,109.1
Millet	11,996.6	4,629.9	27,556.2	594.4	121.8	365.3	-98.7%	(27,190.9)	0.00	0.00
Rice	387,491.2	155,384.0	2,638,662.7	318,864.6	216,543.3	2,898,195.8	9.8%	259,533.1	2,020.0	27,035.4
Wheat	1,817,931.8	858,632.9	5,097,696.3	1,945,609.8	661,225.1	4,964,269.5	-2.6%	(133,426.7)	35,203.9	264,300.1
Sub-total Cereals	2,604,036.1	1,176,987.1	8,410,945.0	2,817,847.7	1,069,763.9	9,260,526.6	10.1%	849,581.6	41,657.5	323,601.3
Cotton	199,870.2	81,636.7	1,079,567.3	175,840.7	55,821.0	835,895.6	-22.6%	(243,671.7)	1,714.4	25672.0
Sub-total Cereals and Cash Crop	2,803,906.3	1,258,623.7	9,490,512.3	2,993,688.4	1,125,584.8	10,096,422.2	6.4%	605,909.9	43,371.8	349,273.3
Vegetables	560,361.7	1,096,511.0	3,408,355.4	402,967.7	1,235,397.0	5,084,711.4	49.2%	1,676,356.0	32,895.3	135,392.3
Legumes	384,189.1	74,516.9	878,493.0	332,628.7	59,043.9	741,369.5	-15.6%	(137,123.4)	2,086.5	26,198.2
Edible Oils	69,437.3	18,064.8	193,650.0	155,219.7	31,958.5	525,191.4	2.7 times	331,541.4	505.8	8,312.3
Fruits	129,329.0	487,937.0	5,471,777.2	144,363.4	368,791.5	3,543,893.5	-35.2%	(1,927,883.6)	10,246.7	98,465.2
Nuts	96,276.5	94,971.0	3,750,993.9	52,292.7	23,028.7	806,434.1	-78.5%	(2,944,559.7)	1,994.4	69,840.9
Sub-total	1,239,593.7	1,772,000.7	13,703,269.5	1,087,472.2	1,718,219.6	10,701,600.1	-21.9%	(3,001,669.4)	47,728.7	338,209.0
Total Output Value	4,043,500.0	3,030,624.5	23,193,781.8	4,081,160.6	2,843,804.5	20,798,022.3	-10.3%	(2,395,759.5)	91,100.5	687,482.3
Output at current rate in US\$			504,212,647.9	Afs/US\$	46.0	452,130,919.3		(52,081,728.6)		14,945,267.4
Output at constant rate in US\$				Afs/US\$	48.0			433,292,131.0		14,322,547.9
2003 output at constant rate in US\$								483,203,787.6		
Net output value fall in 2004								(49,911,656.6)		

Table 14. Summary, Agriculture Area and Yield, 2003 and 2004 Compared (unadjusted data)
(Parwan, Kunduz, Ghazni, Helmand and Nangarhar Provinces)

	Cropped Area			Cropped Area			Average Yield		
	2003 PRA Cropped Area (Jbs)	Percentage Share	2004 PRA Cropped Area (Jbs)	Percentage Share	Percentage Change 2004/2003	2003 PRA Yield (Kg/Jb)	2004 PRA Yield (Kg/Jb)	Percentage Change 2004/2003	
Cereals and Cash Crops									
Barley	16,914.7	0.4	138,085.4	3.4	8.2 times	333.4	242.04	(27.41)	
Maize	369,701.8	9.1	414,693.5	10.2	12.2%	413.0	382.09	(7.49)	
Millet	11,996.6	0.3	594.4	0.01	-95.0%	385.9	204.91	(46.90)	
Rice	387,491.2	9.6	318,864.6	7.8	-17.7%	401.0	679.11	69.35	
Wheat	1,817,931.8	45.0	1,945,609.8	47.7	7.0%	472.3	339.85	(28.04)	
Sub-total Cereals	2,604,036.1	64.4	2,817,847.7	69.0	8.2%	452.0	379.64	(16.01)	
Cotton ¹	199,870.2	4.9	175,840.7	4.3	-12.0%	408.4	317.45	(22.28)	
Sub-total Cereals and Cash Crop	2,803,906.3	69.3	2,993,688.4	73.4	6.8%	448.9	375.99	(16.24)	
Vegetables	560,361.7	13.9	402,967.7	9.9	-28.1%	1,956.8	3,065.75	56.67	
Legumes	384,189.1	9.5	332,628.7	8.2	-13.4%	194.0	177.51	(8.48)	
Edible Oils	69,437.3	1.7	155,219.7	3.8	2.2 times	260.2	205.89	(20.86)	
Fruits	129,329.0	3.2	144,363.4	3.5	11.6%	3,772.8	2,554.60	(32.29)	
Nuts	96,276.5	2.4	52,292.7	1.3	-45.7%	986.4	440.38	(55.36)	
Sub-total	1,239,593.7	30.7	1,087,472.2	26.6	-12.3%				
Total Area	4,043,500.0	100.0	4,081,160.6	100.0	0.9%				