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REBUILDING AGRICULTURAL MARKETS PROGRAM RAMP ON-FARM DEMONSTRATIONS IMPACT REPORT

JUNE 2006

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REBUILDING AGRICULTURAL MARKETS PROGRAM (RAMP)

RAMP Impact Assessment # 5
Adoption Rates of On-Farm Demonstrations

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RAMP-BRIDGES AFGHANISTAN

On-Farm Study

Assessing the Impact of Demonstration Plots – Introducing Agricultural Best Practices in Afghanistan (September '05 – Jan '06)

RAMP
Rebuilding Agricultural Markets Program Afghanistan

BRIDGES
A DEVELOPMENT CONSORTIUM
جسور اتحاد للتنمیه

RAMP – BRIDGES

Afghanistan

On-Farm Study

Assessing the Impact of Demonstration Plots – Introducing Agricultural Best Practices in Afghanistan

(September '05 – Jan '06)

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RAMP – BRIDGES
Afghanistan
On-Farm Study

Executive Summary

Focus on improvement in agricultural extension in Afghanistan is rooted in agriculture's strategic importance for the development of the country. Across the globe, accelerated technological innovations have changed the fabric of today's agriculture, extension services in many developing countries have tried to keep pace with these advances through multiple innovative programs. Such advances in agricultural technology hold great promise for Afghanistan, where years of war and drought have crippled the country's agricultural capabilities. Yet, eighty percent of the population still depends on agriculture and the rural economy for its livelihood.

In 2003 the USAID introduced the Rebuilding Agricultural Markets in Afghanistan Program (RAMP) to improve the marketable output of the agricultural sector, consequently enriching the lives of Afghans by ensuring food supplies, creating jobs, increasing incomes, and strengthening the competitiveness of Afghanistan's agricultural produce in local and foreign markets. The program included an intensive effort to identify, demonstrate and disseminate new and improved agricultural production technologies in rural areas through demonstration plots and related extension activities.

The findings of the Bridges – RAMP On-Farm study supports the argument for the efforts to transfer technology by providing evidence of tangible material benefits to adopting farmers. The study shows that those who have adopted the recommended practices are generating upto 50% better yields for themselves and contributing significantly to Afghan Agricultural GDP. The study estimates that the efforts to facilitate the transfer of technology trough hundreds of Demonstration Plots have resulted in dividends in access of USD 89 million for the Afghan GDP.

The findings of the study suggest that a farmers' decision to adopt a technology is influenced by external factors, participation in extension activities, interaction with extension agents, access to information sources, inputs and resources, distance from demo farms and markets and perceived profitability of the technology. There is room for adoption to increase if favorable conditions are present. What is missing is the supporting infrastructure and a corresponding institutional framework. The central focus of the institutional design should be to empower the farmers. Lessons emerging from this study can be applied to the design of future agricultural extension projects, elsewhere and especially in Afghanistan where there is tremendous potential for change.

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Abbreviations

ADB	Asian Development Bank
CADG	Central Asian Development Group
CRS	Catholic Relief Services
FAO	Food and Agriculture Organization
GPS	Global Positioning System
GDP	Gross Domestic Product
IFAD	The International Fund for Agricultural Development
ICARDA	International Centre for Agricultural Research in Dry Areas
PDPA	People's Democratic Party of Afghanistan
RAMP	Rebuilding Agricultural Markets in Afghanistan Program
ROP	Roots of Peace
SESRTCIC	Statistical, Economic, Social Research and Training Centre for the Islamic Countries
USAID	United States Agency for International Development

1 Introduction

Some 80% of Afghanistan's population depends on agriculture and the rural economy for their livelihood. Though returning refugees and population pressures are already putting demands on the natural resource sector of Afghanistan, agriculture has room to grow. However, revitalization of the agricultural sector and restoration of food security in the country requires increased agricultural productivity and output through improved knowledge and enhanced agricultural skills.

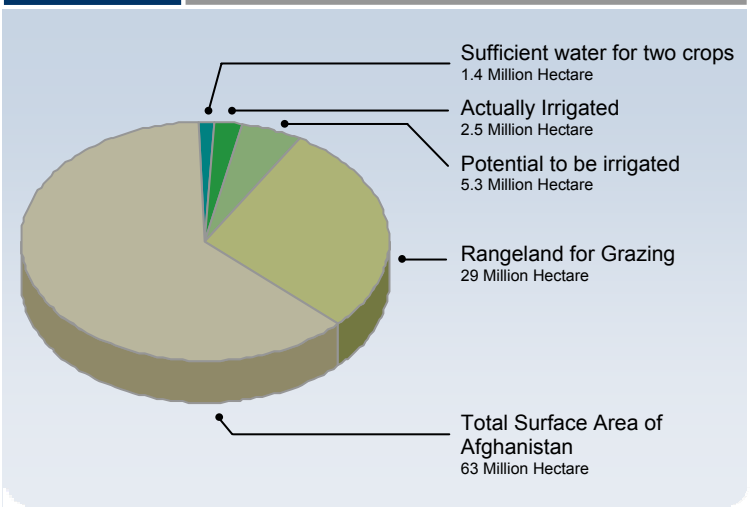
1.1 Afghan Agriculture through the Years

Afghanistan has been known for the quality of its agricultural produce, especially fruits and vegetables. The country was once agriculturally self sufficient with farming households producing over 86 percent of their needs. In the past two decades, however, crop production had declined significantly, increasing the country's dependence on food aid and imports.

Afghanistan has a total surface area of 63 million hectares, of which 8 million is arable; the rest is high mountains and arid wastelands. The arable land is concentrated in valleys along the rivers and other water sources. The total irrigable area is about 5.3 million hectares, of which only half is irrigated and the rest is left fallow. From the total irrigated area, only 1.4 million hectares has sufficient water, year-round, to allow double cropping. Thousands of acres remain unusable due to landmines.

The situation, can, however, be improved. Better irrigation and adoption of recommend agricultural practices can bring more land under cultivation. Mine fields can be cleared and agricultural resources being utilized for growing illicit drugs be reclaimed to address the

Figure 1.1 Afghanistan's Agricultural Potential (Area)



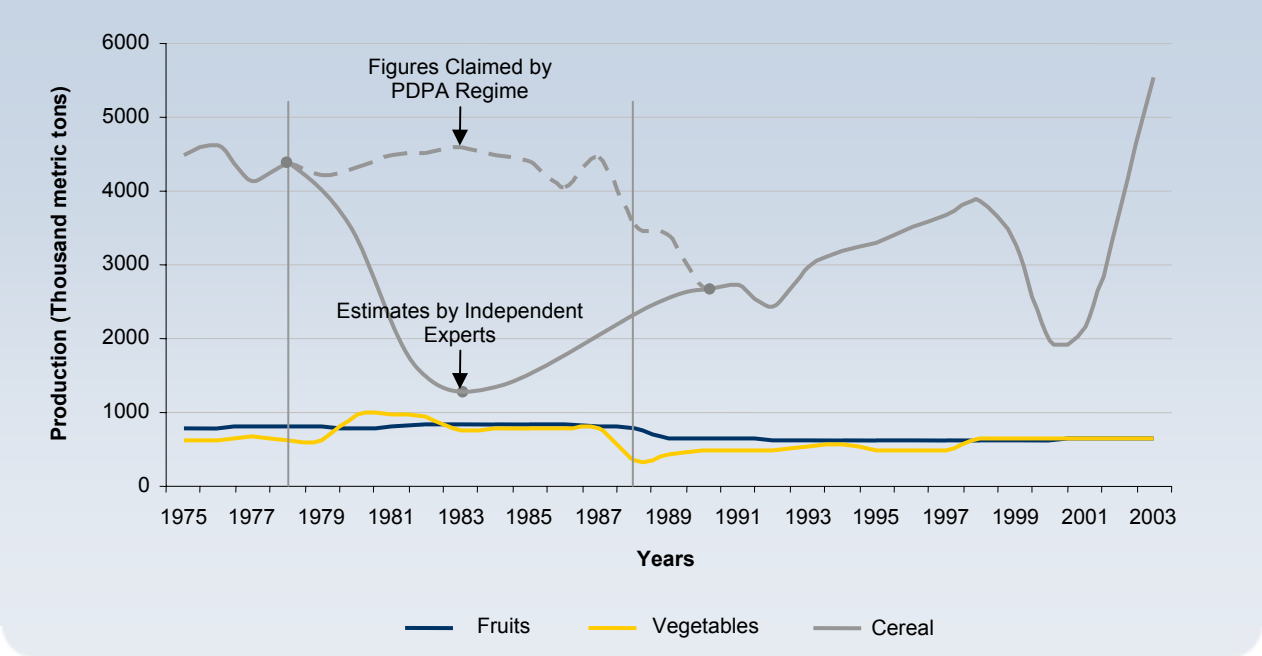
food security concerns of Afghanistan.
But for farm productivity to increase, the farmers will have to adopt a broad range of conventional and emerging technologies that can enhance yields through better seed and crop varieties, improved soil, pest management and better use of water resources. Farmers will also have to utilize new processing and marketing strategies for crops. Technology transfer, however, remains a key issue to materialize all this,

The significance of technology transfer was recognized in Afghanistan as far back as in the 1960s. A centralized, top heavy, state-run extension service was established, employing thousands of extension workers, with huge state farms associated to it. This effort was supported by a national network of agricultural educational services through technical colleges and university faculties. By the mid-1970s the weather conditions were favorable, use of fertilizers and pesticides was expanded, and with the intervention of, albeit bulky, extension system, modern inputs, technologies were trickling through to Afghan farmers. To this the farmers responded positively, and the country's agriculture sector scored several successes up until late 1970s!

In 1978 the Soviet Union invaded the country and installed a Marxist regime under People's Democratic Party of Afghanistan (PDPA). The country soon plunged into a decade long war culminating into a devastating civil war lasting yet another decade.

The war's "scorched earth" strategy, and efforts to terrorize the masses through systematic assaults on supplies and the means of food production, resulted in serious degradation of Afghanistan's natural resource sector. The analysts

Figure 1.2 Agricultural Production over the Years (by Crop Category)

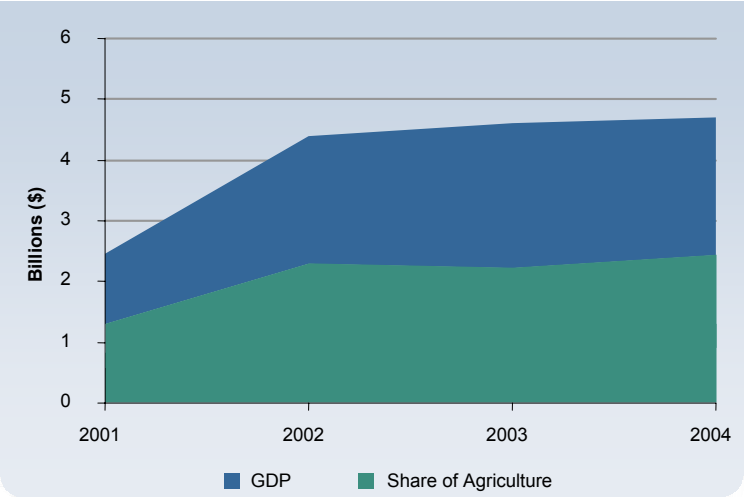


Source: SESRTCIC

estimated that agricultural output of Afghanistan fell dramatically between 1979 and 1982. The cereals production declined by 80 percent; corn, about 77 percent; rice and barley, each about 74 percent; and cotton, 88 percent. Over all, the country witnessed 50 percent decline in crop yield and the agricultural production declined to 45 percent of the pre war (1978) levels.

Twenty years of war and drought, not only devastated the entire infrastructure of the country, it also depopulated it. With mass exodus of Afghans as refugees, country's technical know-how also disappeared, resulting in severely undermined institutions. Afghanistan's agricultural extension system was one of them, it suffered serious damages and its operations were practically ceased. At the same time high levels of risk and exorbitant transaction costs suppressed possible incentives for adoption of new agricultural technologies and the means of technology transfer even if they were ever available.

Figure 1.3 Contribution of Agriculture to GDP



Source: World Bank

At present, there is a huge need for resources from basic infrastructure to training, appropriate technologies and contemporary methodologies. As Afghan Ministry of Agriculture and Animal Husbandry struggles to rebuild a robust extension system, the USAID-RAMP and others are trying to fill the void through inputs of improved seed varieties, supply of fertilizers, pesticides and the establishment of technology demonstration plots across Afghanistan. Once again, the findings of this study reflect that Afghan farmers are responding positively, and the adoption rates are up.

1.2 Rebuilding Afghan Agriculture

In the past, Afghanistan has, witnessed a 50 percent decline in crop production to only 45 percent of the pre war (1978) levels. Market activities have become flaccid and Incentives for adoption of new agricultural technologies have disappeared along with the means of technology transfer. Today, however, things are changing Afghan GDP is growing and is diversifying. Agriculture, nevertheless, remains the primary contributor to country's economy.

Since late 2001, the United States Agency for International Development has responded swiftly and continuously to help revive Afghan economy in general and Afghan agriculture in particular, providing humanitarian and reconstruction assistance in several ways. The first stage of assistance was humanitarian, averting famine through food aid, and revitalizing the economy through cash-for-work and

food-for-work programs. As the humanitarian programs continued through 2002, USAID started programs to bring a sense of normalcy to the long-suffering Afghan people, rebuilding government offices, printing textbooks, converting the devalued currency to a new Afghani currency, as well as, building the necessary infrastructure. USAID has worked with respective Afghan government ministries, coordinating with other donors to design longer-term development and reconstruction programs to help Afghanistan start on a path toward stability, prosperity, and self-sufficiency

To revive the agricultural sector, farm productivity as well as profitability needed to be increased in a relatively short span of time ensuring food security for rural Afghanistan. USAID distributed 7,000 metric tons of enhanced wheat seed and 15,000 metric tons of fertilizer among Afghan farmers right after the hostilities ended in 2002. An increasing number of farmers readily adopted these newer, higher yielding seed varieties promising an 80 percent increase in productivity. By allowing Afghan farmers to adopt the use of fertilizer and high yield seed varieties the USAID hoped to revitalize the rural economy by making farming practices more effective and productive.

Table 1.1 Verified Number of On-Farm-Demonstration Plots by Provinces and Implementing Partners

Implementing Partner	Province	No of Demonstrations Farms
Central Asian Development Group (CADG)	Hilmand Kandhar	526 138
International Centre for Agricultural Research in Dry Areas (ICARDA)	Ghazni Hilmand Kunduz Nangarhar Parwan	30 49 60 66 30
Catholic Relief Services (CRS)	Hirat	114
Roots of Peace (ROP)	Kabul Kandarhar Parwan	116 48 87

At the same time, USAID intended to provide Afghan farmers, access to high yield technologies and market outlets for their production, to improve food availability and purchasing power. Therefore the efforts were directed towards improving knowledge and skills of the farmers, rehabilitating physical infrastructure and increasing access to financing, and expanding income opportunities

1.3 Overview of Ramp Agricultural Activities in Afghanistan

In 2003, USAID initiated a three-year Rebuilding Agricultural Markets Program (RAMP). RAMP was introduced to improve the marketable output of the agricultural sector, consequently enriching the lives of Afghans by ensuring food supplies, creating jobs, increasing incomes, and strengthening the competitiveness of Afghanistan's agricultural produce in local and foreign markets. The program included an intensive effort to identify, demonstrate and disseminate new and improved agricultural and production technologies in rural areas.

Activities under RAMP are directed at five critical areas: agricultural technology, livestock management, infrastructure improvement, market development and rural finance. Out of these five critical areas,

agricultural technology and best practices are being used to enhance crop and livestock productivity, and to introduce new crop varieties, fertilizer, and agricultural equipment

For this, RAMP has partnered with the Central Asian Development Group (CADG), International Centre for Agricultural Research in Dry Areas (ICARDA), Catholic Relief Services (CRS) and Roots of Peace (ROP) to establish hundreds of Demo Plots across Afghanistan that provide proxy extension services to local farmers (table 1.1). At these Demo Plots, with Emphasis on "practical knowledge," a milieu of extension techniques has been used to disseminate useful skills, and related information. Main extension approaches being used include:

Individual contact methods: extension office visits and home visits.

Group contact methods: field demonstrations and field days.

Mass contact methods: publications and radio and television programs.

Individual and group contact methods have been primarily used for the purpose of adoption of improved technologies and practices whereas the mass contact methods are being employed for creating public awareness on the part of farming community.

Field Demonstrations: Extension field staff invites farmers for conducting field demonstrations. The site of the demonstration is used for the purpose of teaching to a large numbers of farmers. On farm demonstrations are facilitating the transition to improved crop varieties and better crop and water management practices. Technologies demonstrated include: seed varieties, fertilizers, irrigation timing, drip irrigation, trellising, pruning, land preparations, sowing/harvesting date, crop cleaning, packaging, storage, weeding, rouging and grafting. These on farm demonstrations are improving agricultural output amongst farmers via adoption and diffusion of recommended practices.

Filed days: Field days are held on farmers' achievements on crop production on demonstration sites. Necessary preparation including media coverage is made with successful farmers about specific achievements and with the field extension personnel regarding the improved technology for this purpose.

Media and Publications: Publications are also prepared, which include booklets, pamphlets, folders and posters. Agriculture related programs are also being produced to be broadcast on radios and television.

1.4 BRIDGES-RAMP On-Farm Study Objectives:

In November 2005, Bridges Development Consortium and USAID-RAMP, teamed up for a comprehensive assessment of the above efforts. The objectives of the "Bridges-RAMP On-Farm Study" were:

- To gauge the accessibility of requisite inputs and farmer participation in the technology transfer activities

- To measure adoption rates and extent of diffusion of the recommended technologies

- To estimate the economic impact of RAMP interventions at the farm and national level

- To quantify the material gains attributable to RAMP demo plots, set up to facilitate adoption

- To understand the factors influencing the adoption of recommended practices

1.5 Study Outline

As an outline, this manuscript follows the sections listed below:

Methodology and Data Collection Activities

Since conclusions, from the on-farm study, are drawn on the basis of survey results from a subset of the entire population. This section outlines the survey design and highlights the actual field work. Methodology for assessing impact and calculating adoption rates has also been described here.

Awareness, Access and Participation in Extension Activities and Demo Plots

An important element of this study is to evaluate the participatory component of the extension services. Interactions with extension agents are a consistent source of information for the farmers. An objective of this study is to assess the usefulness and relevance of extension agents' advice for the farmers and the impact of interaction between farmers and extension agents.

Adoption and Diffusion of Recommended Agricultural Practices

One of the objectives of this study is to measure the adoption and diffusion rates of recommended practices. This section of the report explains the adoption rates for each crop category and recommended practices. The section further analyses the economic impact of RAMP on productivity at farm level and on GDP of the country.

Factors Influencing Adoption and Implications

Several factors influence adoption and diffusion of agricultural best practices. Farmers choose from an array of alternative technologies and practices based on the biophysical characteristics of the environment and socio-economic attributes such as land tenure, labor availability, income, profitability, and access to credit and information. This section of the report highlights factors influencing adoption of recommended technologies and sheds light on its implications.

2 Methodology and Data Collection Activities

Enhancing Afghanistan's agricultural base largely depends on profitable agricultural production. The development and adoption of best agricultural practices is necessary to enhance farm profitability and promote the adoption of agricultural practices that are both sustainable and productive. RAMP initiated, On-Farm Demonstration Plots that have been set up across Afgahanistan are intended to accomplish just that.

Bridges-RAMP On-Farm study is an attempt to gauge the success of the demonstration plots and other extension activities, to promote the transfer of technology and agricultural best practices to Afghan farmers. Data on the adoption and impact of RAMP technologies has been collected through a survey of farming households in regions where demo plots were set up. All facets of adoption process—its intensity, rate, diffusion, impact, and probability —have been analyzed.

2.1 Intensity of Use, Adoption Rates and Diffusion of Demonstrated Technologies

The International Fund for Agricultural Development (IFAD) defines adoption rates as the percentage of farmers using recommended practice/s on a continuing basis.

The number of demonstrated practices adopted by each farmer represented the intensity of adoption. Of an array of best cultivation practices demonstrated to local farmers at the RAMP demonstration plots, farmers, on average, adopted three such practices. Thus, for the purposes of this study, farmers that adopted three or more practices were considered "adopters."

Once these best cultivation practices are adopted and are communicated to other farmers through various channels, diffusion is said to have happened. Diffusion helps us comprehend the process through which innovation penetrates a population, over a distance and within a certain timeframe.

Diffusion has been analyzed at subsequent radii of 0-3 km, 3-6 km, 6-9 km and up to 9-12 km of the demo plots. Within these radii, an attempt was made to track the adoption rates starting from just before the beginning of RAMP through three years after the program was initiated. This study observed that beyond a 12 km radius of the Demo Plots, not much diffusion

of demonstrated technologies really occurred.

2.2 Measuring Impact at the Farm and the National Level

To highlight the impact of adoption accruing to Afghan farmers, a comparison of incomes and yields for adopters and non adopters has been presented in chapter four.

To peg a dollar amount to the overall impact of adoption, on Afghan agriculture, through RAMP On-Farm Demos an estimate of the agriculture production of the surveyed region was required. Since specific agricultural statistics for the regions were either non existent or difficult to establish, FAO estimates on cereal production (2003- 2005) for the region were used as a proxy.

The regional contribution to agricultural GDP was further partitioned into contributions made by the adopters and those made by the non-adopters. To quantify the contribution of On-Farm Demonstrations on the impact made by the adopters, the overall adoption rate was regressed on participation in activities initiated by RAMP through On-Farm Demonstrations. A discussion and estimated dollar amounts and other findings are presented in Chapter4.

2.3 Analytical Procedure Employed to Determine the Factors Explaining Technology Adoption.

Two related multifactorial techniques, Logit and Probit analysis (Amemiya 1981: Feder et al. 1985) are particularly useful for analyzing data generated by adoption studies. Logistic adoption model, deployed in this study (Chapter 5), 1. determined the factors affecting the adoption of recommended practices and 2. calculated the probability that certain practices will be adopted.

The functional form of the logit model is:

$$\text{Prob}(Y=1) = \frac{e^{(\beta' X)}}{1+e^{(\beta' X)}}$$

$$\text{Prob}(Y=1) = F(\beta' X)$$

Where $\beta' X$ is defined as:

$$\beta' X = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots\ldots + \beta_n X_n + \varepsilon_i$$

Where β_0 is the constant and β_i Where i = 1,2,.....,n are coefficients of the exogenous/explanatory variables to be estimated; ε_i is the error term with zero mean and constant variance.

The logistic regression does not model the relationship between the probability of Y=1 and the explanatory variables directly, but through the logic function, that is, natural logarithm of odds of Y=1. The model assumes a linear relation between the log of odds and independent variables, X_1, X_2, … , X_n, and can be written in the form: p = *Prob. (Y=1),then*

$$\log(p/(1-p)) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots\ldots + \beta_n X_n + \varepsilon_i$$

The maximum likelihood estimation is used to obtain the estimates of the model parameters. After estimators of $\beta_0, \beta_1, \beta_2, \beta_3, \ldots\ldots \beta_n$ are computed, it is easy to compute predicted probabilities. If parameter β_i is positive, then p, predicted probability of *(Y=1),* is higher for higher values of X_i; if parameter β_i is negative, p is lower for higher values of X_i. The value of *Exp* (β) indicates the change in odds resulting from a unit change in the explanatory variable.

$$Exp(\beta) = \frac{Odds\ after\ a\ unit\ change\ in\ the\ predictor}{Odds\ before\ a\ unit\ change\ in\ the\ predictor}$$

Explanatory variables for the model have been chosen on the basis of literature on the adoption and diffusion of technology. These include:

- Farmers' socio-economic circumstances (e.g., age, formal education, etc.)
- Farmers' resource endowments (e.g., size of family labor, farm size and livestock ownership); and
- Institutional support systems available to farmers (e.g., credit extension and availability of inputs)

Based on literature review, including similar studies in other parts of the world, the study identified the following plausible predictors of adoption:

Institutional Characteristics:
Information sources: Dissemination of relevant information through literature, television programs and radio talks is anticipated to influence a farmer's awareness and hence adoption of recommended practices.

Interaction with extension agents: Contact with extension agents because of farmer's visit to the extension agent and extension agent's visit to the farmer was expected to have a positive consequence on adoption patterns.

Participation in extension activities: Farmers who have visited demonstration plots, visited field days and exhibitions, and have participated in meetings and workshops are expected to have a positive attitude towards adoption of new technologies.

Distance from Demo farms: The further away are farmers from demo farms, the less likely it is that they have access to information. For this study, information regarding the location of demo farms was provided by RAMP. Information from the survey questionnaire was used to determine the location of the settlement where the survey was conducted. Using the application MapInfo, distance of the respondent from the demo farm was calculated in kilometers. This factor was expected to be inversely related to the adoption of new technologies.

Economic and Market Forces:
Access to inputs and resources: Farmers would be more encouraged to adopt recommended practices if they had access to requisite inputs. Therefore, access to agricultural inputs, modern implements, finances and credit were hypothesized to positively influence the adoption patterns

Access to Markets: As farmers closer to markets have easier access to markets to sell their production, distance from markets was hypothesized to be negatively related to the probability of adoption.

Family Labor:
Labor availability is a critical factor influencing farmers' adoption decisions.

Cost-benefit analysis: Farmers will be more inclined to adopt practices for which the overall benefits are greater than the costs. Costs related to new technologies include costs associated with application of inputs, equipment, time and labor whereas benefits include increased farm yield and income, decreased risk in yield,

Table 2.4.1 Sampling Procedure

Sampling Stage	Sampling Unit	Selection Criterion	Units at this level	Cumulative
1	Settlement	(i)Regional allocation of settlements based on a percentage distribution of demo farms (ii)Allocation of settlements within each region into distance categories, based on a percentage distribution of the settlements.	150	150
2	Farmer	Randomly selected from among all farmers in the settlement	20-21	3000

selection of hybrid and varieties, increased knowledge and information of farm management, and improved living standards. If the benefit to cost ratio gives a positive result, then the probability of farmers adopting recommended practices is high

External factors such as weather conditions and relevant infrastructure (such as roads, irrigation system etc.). Suitable weather conditions and favorable infrastructure are hypothesized to have positive effect on adoption patterns.

The findings and the outputs generated by the regression model are presented in Chapter 5.

2.4 The Survey Design

Over a thousand farm demonstration plots with known GPS locations exist in various parts of Afghanistan. Several approaches (taking into account the spatial dimension of technology adoption, and the security/logistical issues) were considered to ensure the selection of a representative sample of local farmers. Consequently a two stage, stratified random sample of 3000 Afghan farm households was considered appropriate.

At stage one, 150 settlements were selected from five regions in Afghanistan where RAMP On-farm demos existed. The settlements were selected in proportion to the number of demo farms in the region and at designated distances (0-3 km, 3-6 km, 6-9 km, and 9-12km) from the demo farms. At stage two, 20 to 21 farm households were to be selected from within each selected settlement (see Table 2.4.1) Incase a selected settlement was inaccessible; the enumerators were provided a list of alternate settlements (Annex C).

A regional distribution of the surveyed settlements and farms is presented in Table 2.4.2, and Figure 2.4.1.

Table 2.4.2 Regional Allocation of Surveyed Farms

		No. of Settlements		No. of Surveys	
Survey Zone	Province	Frequency	Percent	Projected	Actual
A	Kunduz	10	6.67	200	148
B	Kabul, Kapisa, Parwan	28	18..67	560	465
C	Nangarhar	16	10.67	320	187
D	Ghazni	7	4.67	140	104
E	Hilmand, Kandhar	89	59.33	1780	1765
	Total	150	100	3000	2669

2.5 Sources of Information and Data Collection Tools

The data was primarily obtained through field interviews using a paper pencil questionnaire. The Drawing from the "Bennet/Rockwell Targeting Outcomes of Programs Model (TOP)," a questionnaire was devised (Annex A) that gathered information on the degree of attainment of program objectives. It comprised of sections on "KASA Variables" (Knowledge, Attitude, Skills, and Aspirations of the farmer) and Social, Economic, and Environmental Conditions (SEEC)—a measure of the profitability of adopting the recommended technologies through information on areas under cultivation, the inputs used in production and the corresponding yields accruing to the farmers.

The "Practice Change" section in the questionnaire gathered data on the adoption of new practices, techniques and behaviors that were learnt through participation in RAMP's extension related activities. It included information on the time of adoption and the major sources of knowledge on the best practices. Items on farm and farmer characteristics were also included. The questionnaire was prepared in English and translated into Dari and Pashto languages and was field tested before the enumerators were trained on its use. The pre-testing was meant to assess the instrument's adequacy and suitability

The study was further substantiated with secondary data from official RAMP publications, reports and documents on agricultural statistics in Afghanistan.

2.6 Data Gathering Activities

The field work was preceded by a training workshop at the RAMP's offices, in Kabul in November 2005. The participants were organized into 15 teams; each team comprised of 3 enumerators. Most of the enumerators were the workers of the provincial departments of agriculture in the surveyed regions. Some had past experience in similar assessments.

The training included a summary of the study's objectives, a detailed question by question review of the survey instrument, and guidelines on filling out the responses and tips on interviewing. At these sessions the participants raised questions and clarified ambiguities regarding data collection tools and methods for conducting individual farmers' interviews. The enumerators also filled out dummy questionnaires and teamed up with their colleagues to practice interviews.

With possible constraints under check, the field work was completed in three weeks. After which the survey forms were returned to RAMP's Kabul office, where the data entry team in entered the data episodically. Data was later passed on to Bridges Development Consortium.

At Bridges, the data was cleaned and verified for accuracy before being subjected to a comprehensive statistical analysis. Following data cleaning, the data was coded and analyzed using SPSS Version 13 computer software. Analytical techniques applied include t-test, chi-square test, correlation analysis as well as simple linear and logistic regression.

Figure 2.4.1 Distribution of Surveyed Settlements and Demo Plots

USAID
BRIDGES
RAMP-BRIDGES AFGHANISTAN On-Farm Study

Legend

Boundaries:

- International
- Province
- District
- Surveyed Provinces

Settlements

- Surveyed Settlements

Demo Farms

- Farms

Location: Afghanistan

© Bridges Development Consortium – February 2006

2.7 Characteristics of the Survey Respondents

Basic demographic information about the survey respondents appears in Table 2.7.1.

The study observes that over 90% of the farmers own the land they cultivate. Also, that agriculture is the dominant source of income for most (On average 76 percent of the farmers' income comes from agriculture). Majority of the farmers (68.9 percent) have had no formal education; around 10.21 percent have only had some primary education followed by only 8.59 percent with any secondary education.

Table 2.7.1 Profile of the Surveyed Population

Measure	No of Responses	Mean
Total Size of Holding *(jeribs)*	2629	13.9390
Age of head of household *(yrs)*	2647	44.84
Household Income from all sources *(Afghanis)*	2468	89682.8
Share of Agriculture in Household Income *(%)*	1908	76 %
Highest Education Attained *(%)*		
Illiterate	1741	68.9%
Primary	258	10.21%
Secondary	217	8.59%
Intermediate	100	3.96%
Some College	192	7.6%
Bachelor's	19	0.75%
Type of Farming Business *(%)*		
Owner	1112	90.43%
Fixed rent tenant	92	3.3%
Share Cropper	132	6.27%

2

3 Awareness, Participation in Extension Activities and Access to Inputs

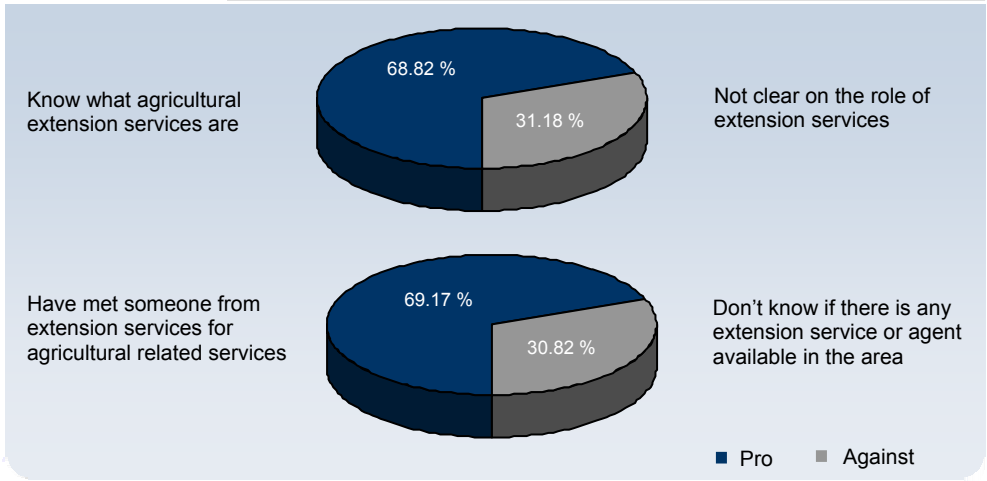
Extension services play a particularly significant role in conveying complex information, such as information about the quantity and type of fertilizer to be used for a particular crop, and in solving problems specific to individual farmers or local areas, such as pest control or soil micronutrient deficiency. However to benefit from extension services, farmers need to be aware of, have access to and participate in relevant services.

3.1 Awareness and Access to Extension Services

Awareness of extension messages is an institutional characteristic greatly influencing a farmer's decision to adopt a new technology. Under RAMP, information was disseminated to farmers through various means, such as, extension agent's visits to farms, farmer's visit to demo plots, field days, agricultural exhibitions, radio programs and literature on recommend practices.

The diffusion of new technologies is influenced by the visits agricultural extension workers pay to farmers. Although the information provided by the extension workers may not be totally objective with respect to information on expected performance, they serve as an important source of information on how and when to use a new technology (Abdulai & Huffman 2005).

Figure 3.1.1 Farmer Awareness of Extension Activities



Survey results show that a majority of the respondent farmers knew what agricultural extension services are, only a third of the farmers were not clear on the role of extension services (Figure 3.1.1). Most farmers also acknowledged that they had met an extension agent in the past, compared to only about 30 % of the surveyed farmers who did not know if there was any extension agent or service available in their area. (Figure

Figure 3.2..1 Farmer Participation in Extension Activities

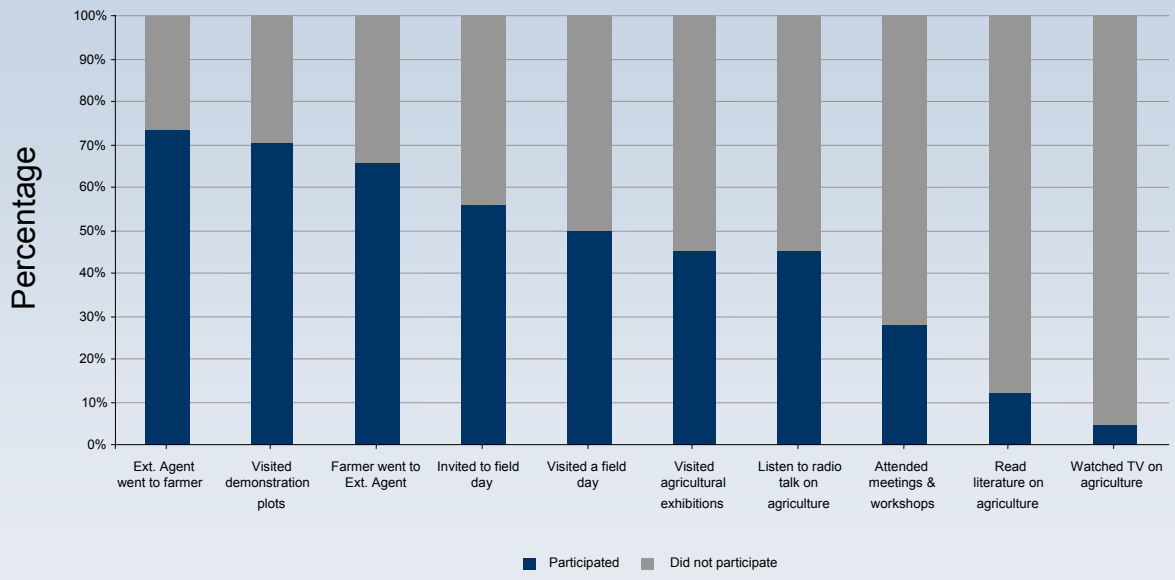


Figure 3.2.2 Percent Share of each Activity by Type of Activity of all Activities

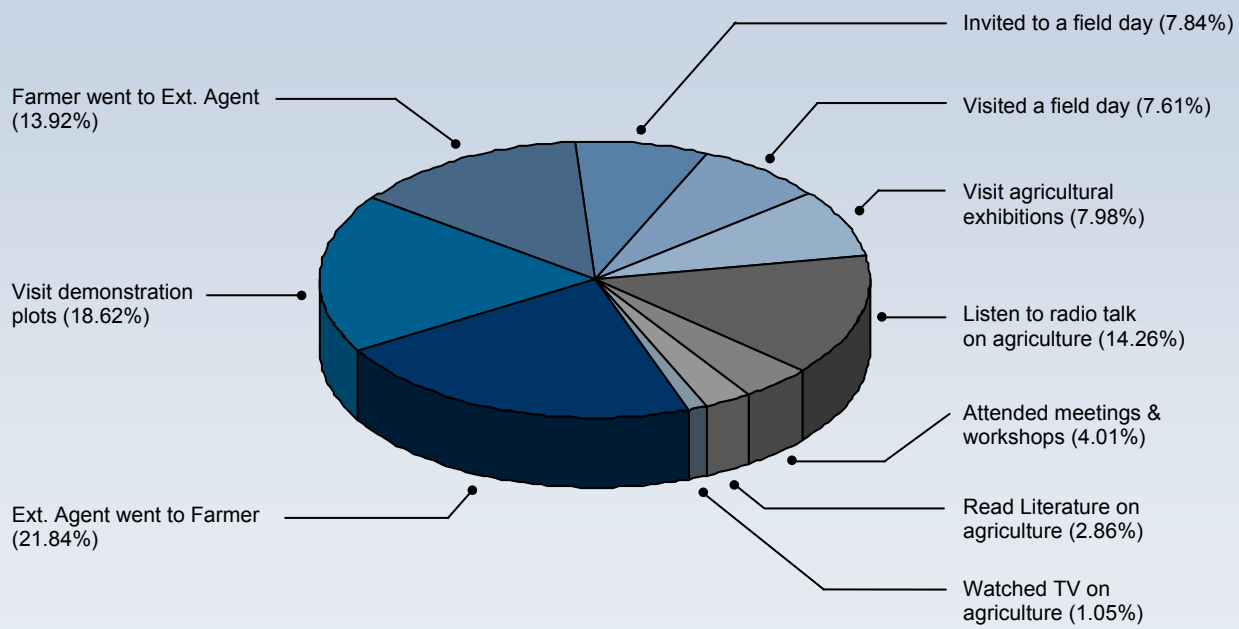


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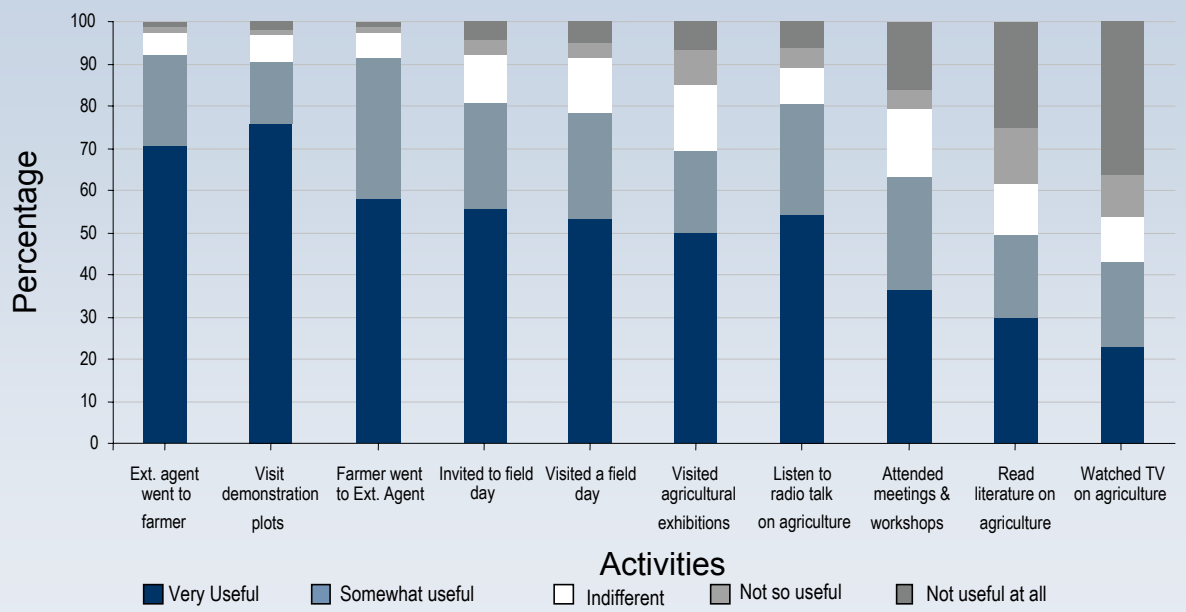
Figure 3.2.3 Perceived Usefulness of Recommended Practices



3.1.1)

3.2 Farmers' Participation in Extension Activities

Effective agricultural extensions can bridge the gap between established technologies and changes in practices employed by individual farmers (Feder, et. al, 1985). Through On-Farm Demonstrations, RAMP intends to effectively disseminate best agricultural practices to Afghan Farmers.

For these efforts to succeed, the information on recommended practices must be disseminated in ways that encourage participation and facilitate adoption. Thus "Knowing where people look for information is only half the battle for Extension communicators; knowing where people find information is the other half" (Pounds, 1985).

Since, information is being delivered in a multitude of methods; Bridges-RAMP On-Farm Study tries to gauge the frequency with which various methods are being availed by the farmers.

Farmer interaction with the extension agents and their visit to the demonstration plots are by far the most popular information delivery activities (Figure 3.2.1). When inquired about their interaction with the extension agents, most (66%) of the farmers indicated that they had visited the extension agent and about three fourths (73.2 %) suggested that the extension agents had in fact visited them. (Figure 3.2.1)

While RAMP used meetings, on-farm visits and field days, the information was also disseminated trough media formats including Radio/TV programs, brochures and other written material. However, lower literacy rates in Afghanistan, did not favor dissemination through brochures and written materials. At the same time, limited access to

3

electricity meant little or no access to TV Broadcasts. Radio Programs, nevertheless, were fairly popular, (Figure 3.2.1).

Followed by their interaction with the extension agents, most respondents thought that their visits to the Demo-Plots were very useful. The study also observed that the surveyed farmers were tuned to radio programs on agriculture, and in their perception, these programs were more beneficial than agricultural exhibitions, meetings, workshops and reading materials that might have been provided by the extension services.

3.3 Access to inputs.

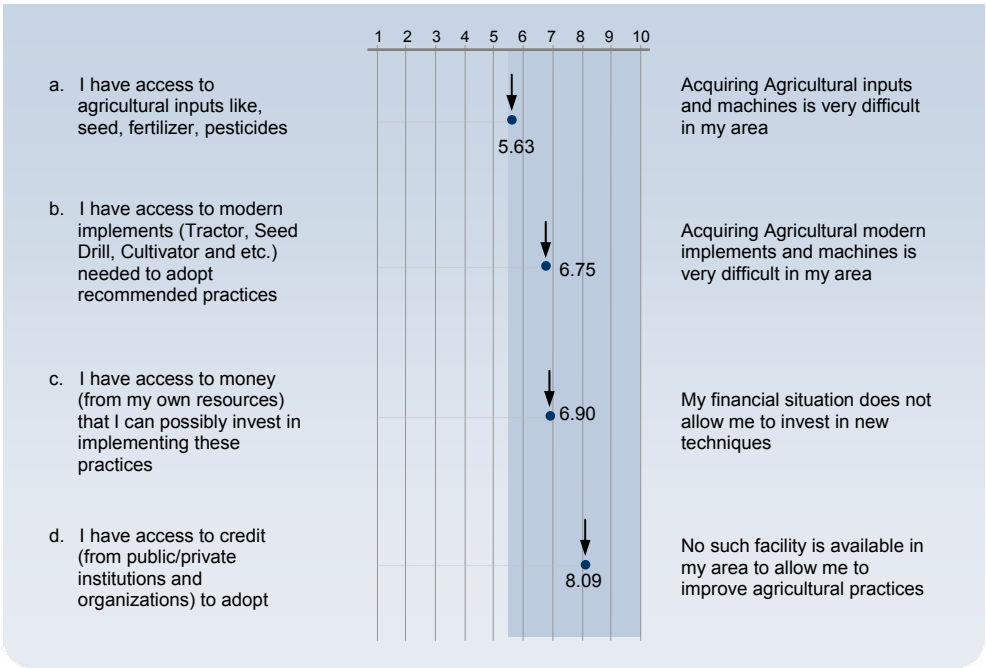
With the availability of inputs and complementary infrastructure the farmers adopt the recommended practices, more readily. An easy, stable, and reliable access to agricultural inputs and resources greatly facilitate adoption.

This positive relationship was evident when USAID distributed 7,000 metric tons of enhanced wheat seed and 15,000 metric tons of fertilizer among Afghan farmers, right after the hostilities ended in 2002 (Chapter 1). An increasing number of farmers readily adopted these newer, higher yielding seed varieties promising an 80 percent increase in productivity.

The pictorial analysis in Figure 3.3.1 illustrates the availability of inputs to farmers. As depicted by the results, agricultural inputs were relatively easily accessible as compared to finances and credit. For access to agricultural inputs, like seeds, fertilizers and pesticides, the mean response value stood at 4.52, signifying that more farmers had access to agriculture inputs compared to those who did not.

Though availability of agricultural inputs and modern implements is restricted, access to personal credit and finances is an even bigger constraint. Lack of capital and formal services is the major hindrance in the growth of micro businesses in Afghanistan.

Figure 3.3.1 Mean Response - Access to Agricultural Inputs, Modern Implements and Credit



4 Adoption of Recommended Agricultural Practices

Advances in agricultural technology hold great promise for Afghanistan, but for these breakthroughs to benefit the local population, new technologies have to be disseminated through a well thought out mix of local initiatives, educational/research institutions and efficient extension services.

Throughout the years of war, incentives for the adoption of new agricultural technology disappeared, and technology transfer was hampered by the breakdown of traditional institutional means for demonstration and dissemination.

As Afghan Ministry of Agriculture and Animal Husbandry struggles to rebuild a robust extension system, the USAID-RAMP and others are trying to fill the void through provision of inputs such as improved seed varieties, fertilizers, pesticides and establishment of technology Demonstration Plots across Afghanistan.

The findings of this study indicate that the adoption rates are up and Afghan farmers' are adopting the recommended inputs and technologies. There are also indications that adoption is being followed by a healthy diffusion. Later in the chapter, the adoption rates are used, as indicators, to assess the economic impact of technology transfer both, at the farm and the national level.

Figure 4.1.2 Regional Differences in Overall Adoption Rates for Recommended Agricultural Practices

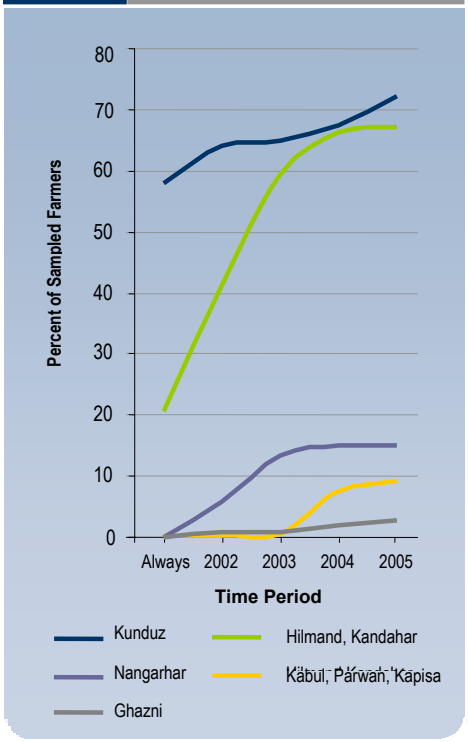
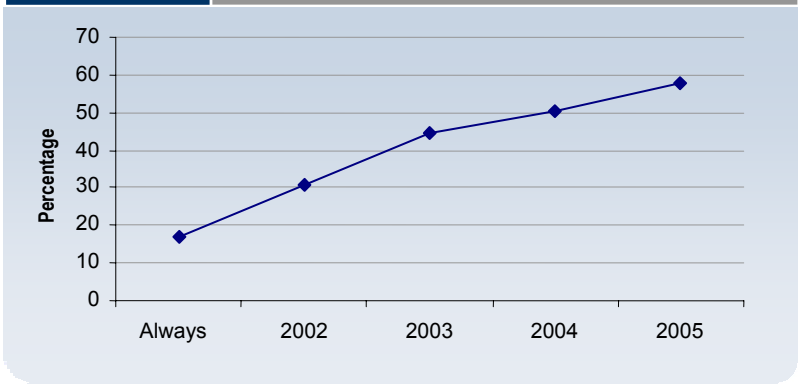


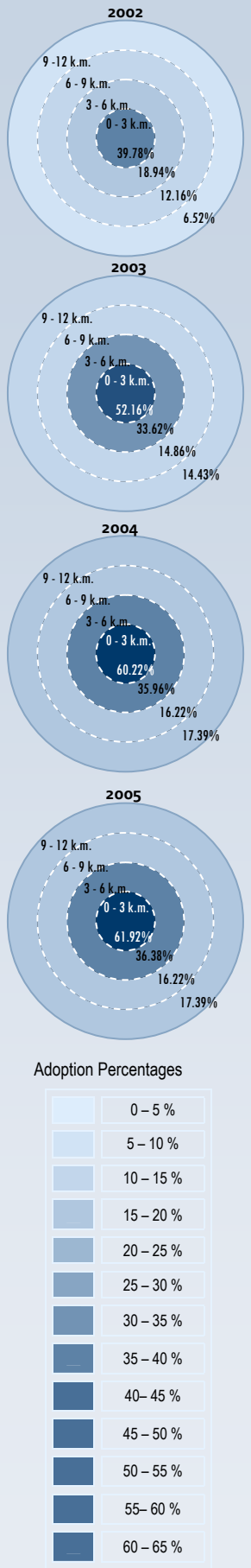
Figure 4.1.1 The Overall Adoption Rate for Recommended Practices



4.1 Findings on Adoption Rates

Based on the methodology described in chapter 2, a trend line of overall adoption rate, starting form year 2002, is drawn (Figure 4.1.1). Although the

Figure 4.1.3 Diffusion of Practices 2002-2005



demonstrations for wheat began in fall 2003, the majority of RAMP demonstrations were carried out in 2004. Nevertheless, the impact in 2003 is significant since wheat being the staple crop for the country is grown throughout Afghanistan. Overall, the adoption rate at the end of 2003, 2004 and 2005 rose incrementally at 43, 51 and 57 percent respectively.

Despite an overall upward trend, there are significant regional differences in the adoption rates (Figure 4.1.2). Farmers in Kunduz appear to be fairly sophisticated in their adoption of recommended practices whereas in the Ghazni region adoption seems to have stagnated. Hilmand and Kandahar have made the steepest gains in adoption rates since 2002.

In regions of higher agricultural productivity (where demonstration plots are often setup) adoption of recommended practices seems to have spread to the surrounding regions. The set of concentric circles in Figure 4.1.3 depicts this diffusion of practices over time, showing adoption rates within subsequent 3km radii (ranging from 0-3 km, 3-6 km, 6-9 km and 9-12 km) of the demo farms.

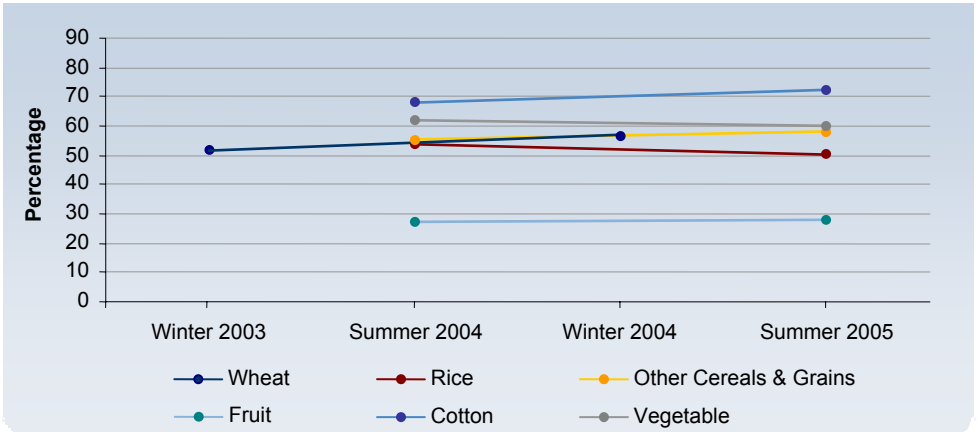
A darkening of the circles over times shows an increase in percent of adopters. The bulk of the impact is witnessed in 2003 where the percent increase in adopters compared to the previous year is high. Notably, for the period 2002-2003 for the 0-3 km radius, the increase in adopters is 12.38%, for the 3-6 km range it is 14.68 % and for the 9-12 km range the corresponding figure is almost 8 %. Also, it is evident that maximum impact is being made in the immediate 3km radius around the demo farms. Overall the diffusion does not appear to have spread beyond 12 km radius of the demo plots (agricultural centers).

4.2 Adoption Rates by Crop Categories

Afghan farmers usually cultivate an assortment of crops through different seasons. It is therefore, difficult to classify them as growers of a particular crop. However, it is useful to analyze adoption rates across various crop categories , to identify the crops within which the maximum adoption is taking place and to assess the maximum increase in percetage of adopters.Figure 4.2.1, attempts to isolate the effects of the kind of crops the farmers were growing in consecetive seasons, from 2002 through 2005, and the rate at wich they were adopting the recommended practices.

The findings indicate that the landholders cultivating oil seeds lead others in the percentage increase in adoption of the recommended practices. For these farmers, the adoption rates rose from 16.5 percent

Table 4.2.1 Adoption by Crop



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in 2003 to around 37 percent in 2004. Wheat and cereal crop growers were next, for them the adoption rates increased from 52 percent to almost 57 percent. Thus, there is significant variation in the speed and extent of adoption across the various crop categories.

4.3 Adoption Rates by Recommended Practices

"Bridges-RAMP On-Farm Study" also collected data on several recommended practices, within each crop category (Annex-A). These practices are key mechanisms for improving the productivity and the efficiency of agriculture in Afghanistan.

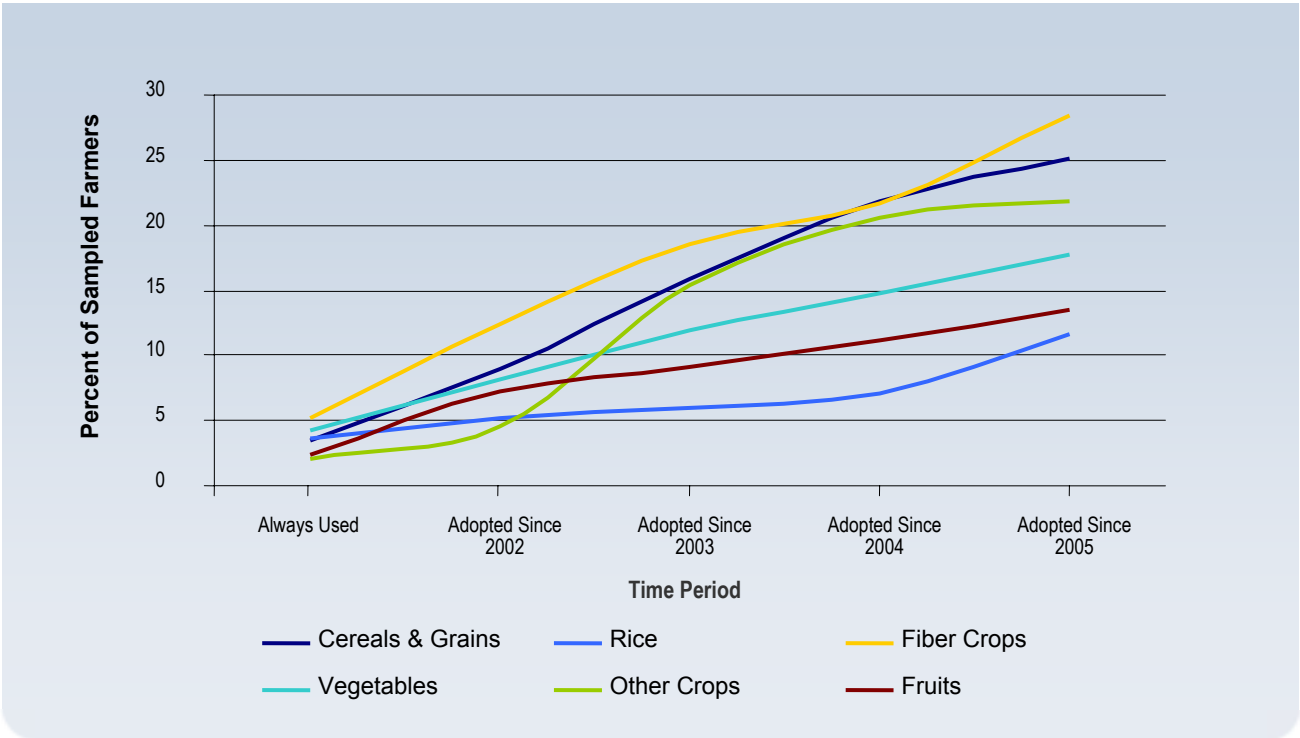
Characteristics of particular practices within each crop category and their adoptability for the farmers are extremely significant in their appraisal. For instance, some recommended practices may just require simple modifications to practices currently used by farmers, while others may require farm-wide changes to the systems of production. The adoption rate of each practice differs according to the nature of the practice.

The context within which Afghan farmers make decisions concerning adoption of recommended agricultural practices may include broader structural characteristics of Afghanistan's agriculture that constrain or facilitate adoption. Individual and social characteristics include personal, family and demographic characteristics. To understand the relative influences of the factors that impact on a decision to adopt or not, a logistic regression model is run and presented in the next chapter.

For now, since different adoption rates for different practices have implications for those considering adoption and those promoting it, we have ranked different practices within each crop category according to their adoption rates. Figure 4.3.1 depicts the combined adoption rate for various practices within each crop category for all crop categories.

Figures 4.3.2, 4.3.4, 4.3.6, 4.3.8,

Figure 4.3.1 Adoption Rates for Recommended Practices - All Crop Categories



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4.3.10, 4.3.12 separate them into individual graphs. Underneath, in figures, 4.3.3, 4.3.5, 4.3.7, 4.3.9, 4.3.11, 4.3.13, respectively, the combined adoption rate is split into percent share of different practices within that crop category.

It was observed that in general Afghan farmers appear more eager to adopt recommended practices at earlier stages of crop production, as in transplanting (rice, figure; 4.3.5) (other crops, figure; 4.3.11), hoeing and thinning (fiber crops, figure; 4.3.7) and earthing-up (fruits 4.3.13). However, as crop production approaches more complex harvest (fruit, figure; 4.3.13), and post harvest stages, such as, grading, packaging, (fruit, figure; 4.3.13), storing (fruit, figure; 4.3.13) (cereals and grains, figure; 4.3.3), delinting (fiber crops, figure; 4.3.7) and drying (saffron, figure; 4.3.11), the adoption rates drop significantly.

Thus, adoption rates vary according to the complexity of the proposed technologies.

4.4 Farm Level Impact

Adoption and diffusion of technology innovations have had positive socio-economic impact on farm households across developing countries. New technologies help save scarce resources, increase yields, and enable production of new crops that are more profitable for the growers. Since agriculture is the source of income for over 80 percent of the Afghan population, efforts directed at improving agricultural production can translated into greater incomes and improved livelihoods for the entire country.

To quantify the material benefits that can be attributed to the adoption of recommended practices the survey instrument included items on agricultural yields and income levels of the farm households. Results from the study show that, on average, those who adopted the recommended practices were 25 percent more productive and had 41 percent higher household earnings. These estimates have been arrived at by comparing the incomes and yields of adopters and non-adopters.

Within crop categories, cotton growers who have adopted the recommended practices produce three times (148%) more cotton. This is followed by wheat producers at 50 percent more. Adopters among vegetable producers attained a 45% better yield, compared to their non adopting fellow farmers.

Since, for orchids, effects of practice change cumulate over time, the results are mixed. Only grape growers seem to have enjoyed a slight edge (5% increased yield) over their non adopting colleagues. As observed earlier, the adoption rates as well as the area under rice cultivation are on a decline. Also, the water shortages have stunted the effects of adoption and no noticeable productively imperatives for rice growers are observed.

Figure 4.3.2 Overall Adoption of Recommended Practices for Crop Category – Cereals and Grains

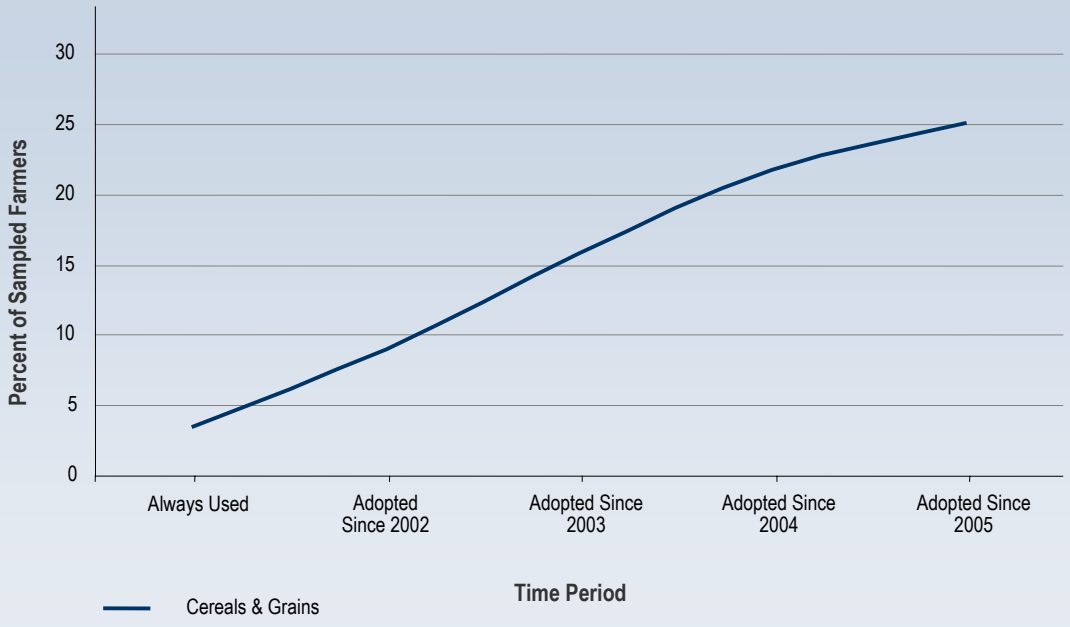

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Figure 4.3.3 Adoption of Individual Practices within Crop Category - Cereals and Grains

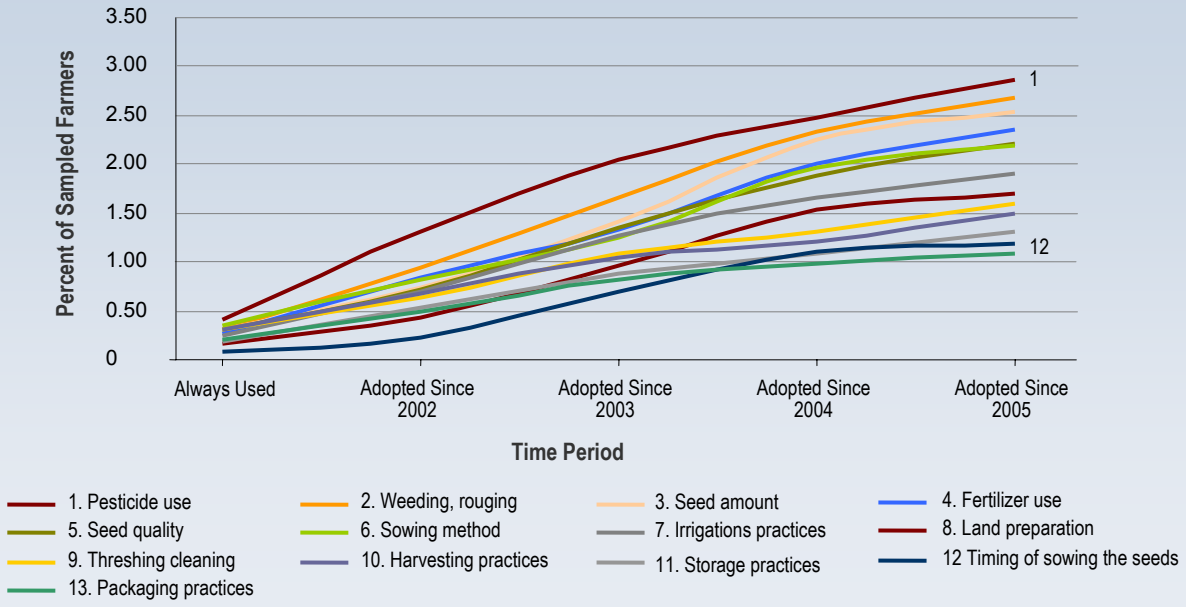

Figure 4.3.4 Overall Adoption of Recommended Practices for Crop Category – Rice

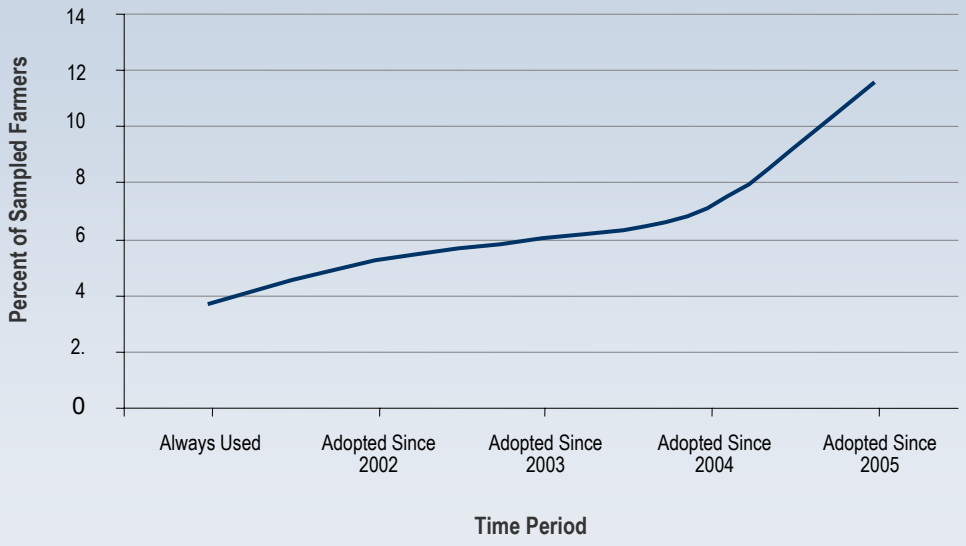

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Figure 4.3.5 Adoption of Individual Practices within Crop Category - Rice

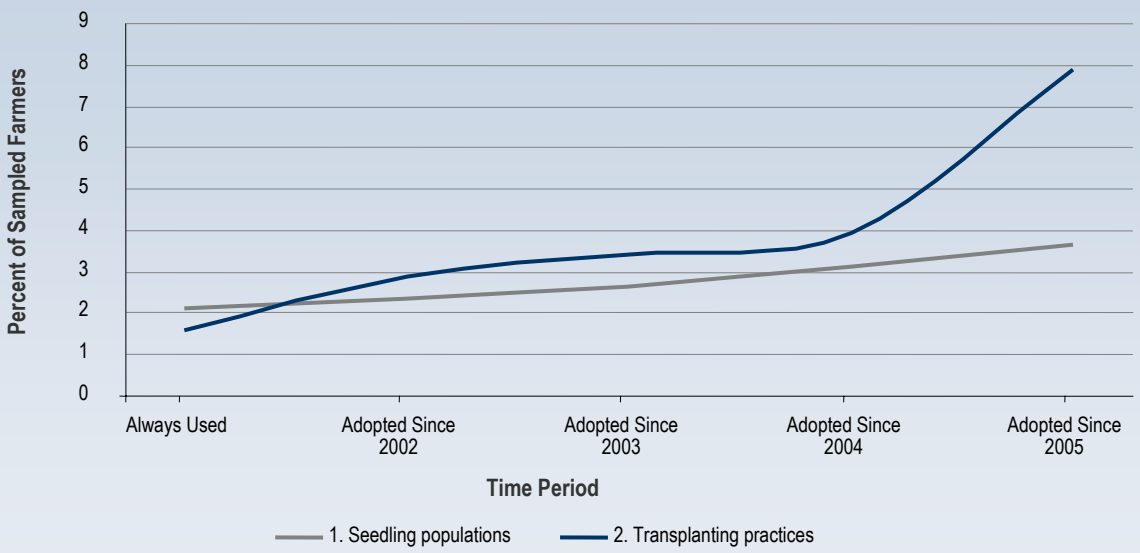

Figure 4.3.6 Overall Adoption of Recommended Practices for Crop Category – Fiber Crops

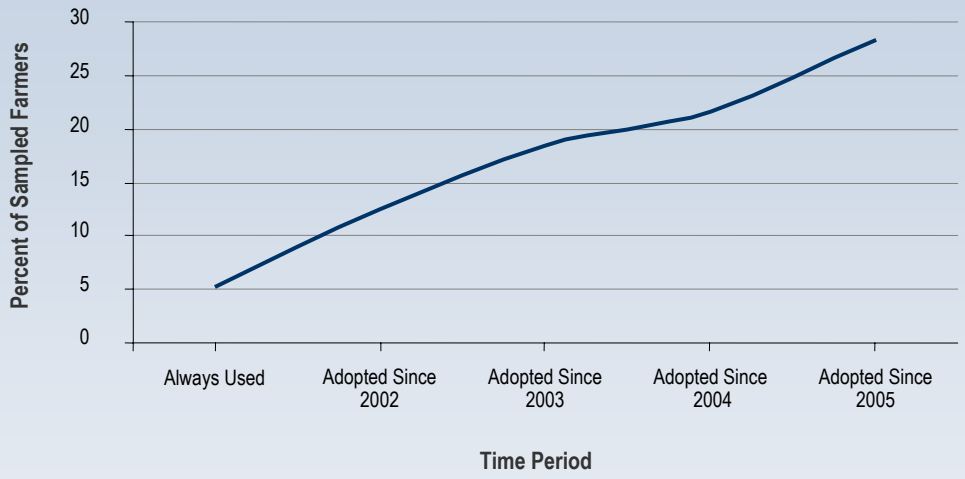

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Figure 4.3.7 Adoption of Individual Practices within Crop Category - Fiber Crops

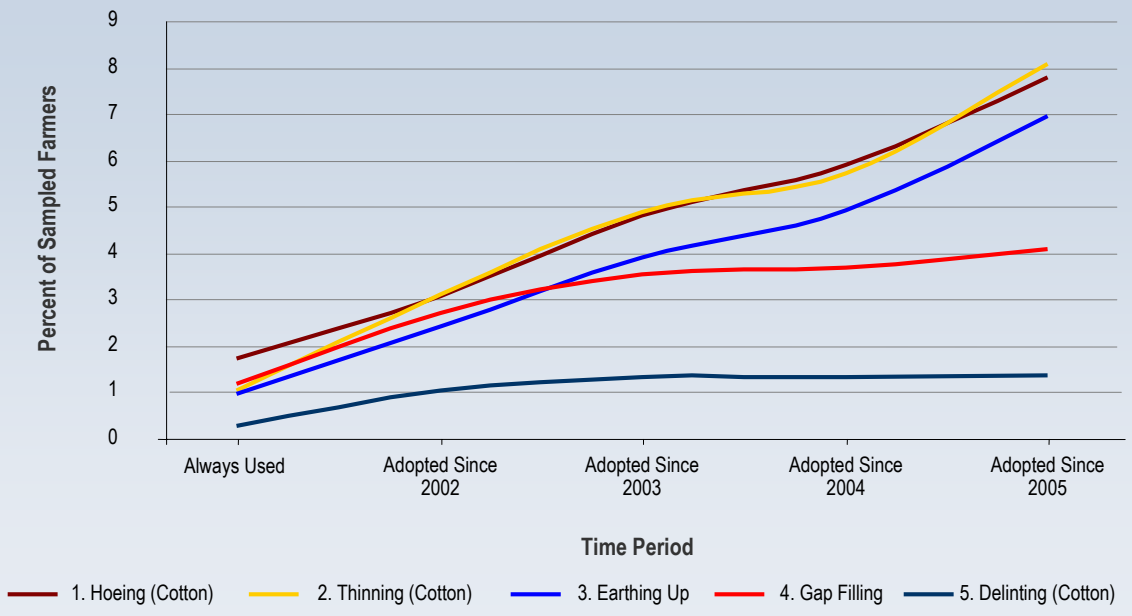

Figure 4.3.8 Overall Adoption of Recommended Practices for Crop Category – Vegetables

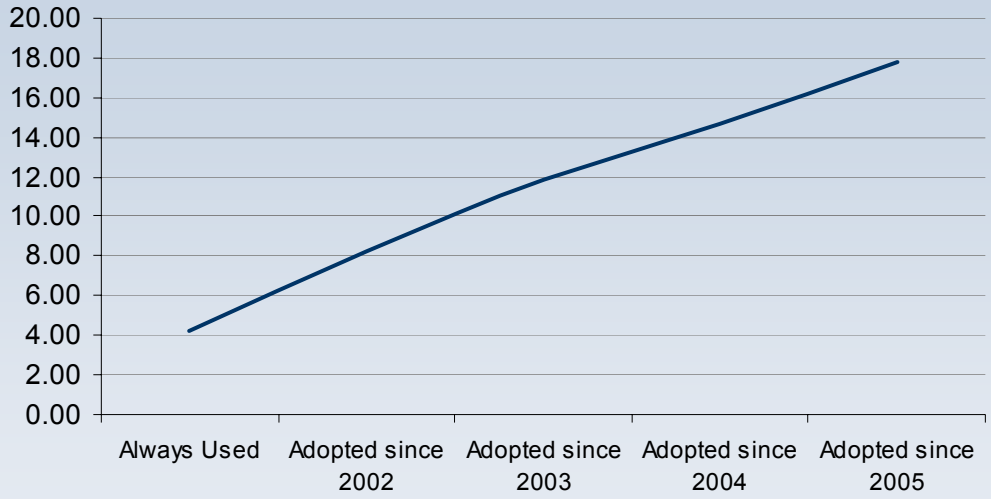

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Figure 4.3.9 Adoption of Individual Practices within Crop Category – Vegetables

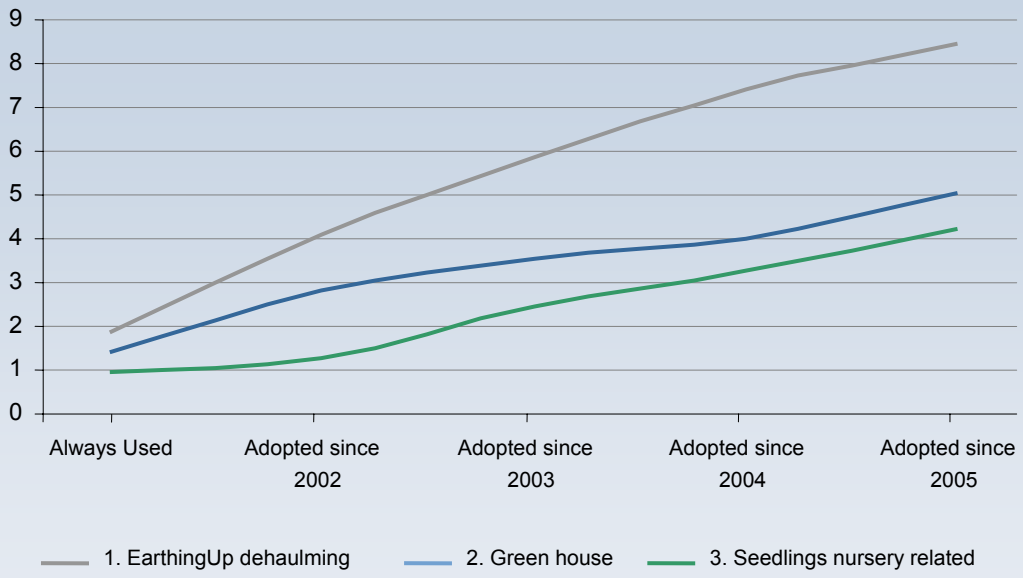

Figure 4.3.10 Overall Adoption of Practices for Crop Category - Other Crops

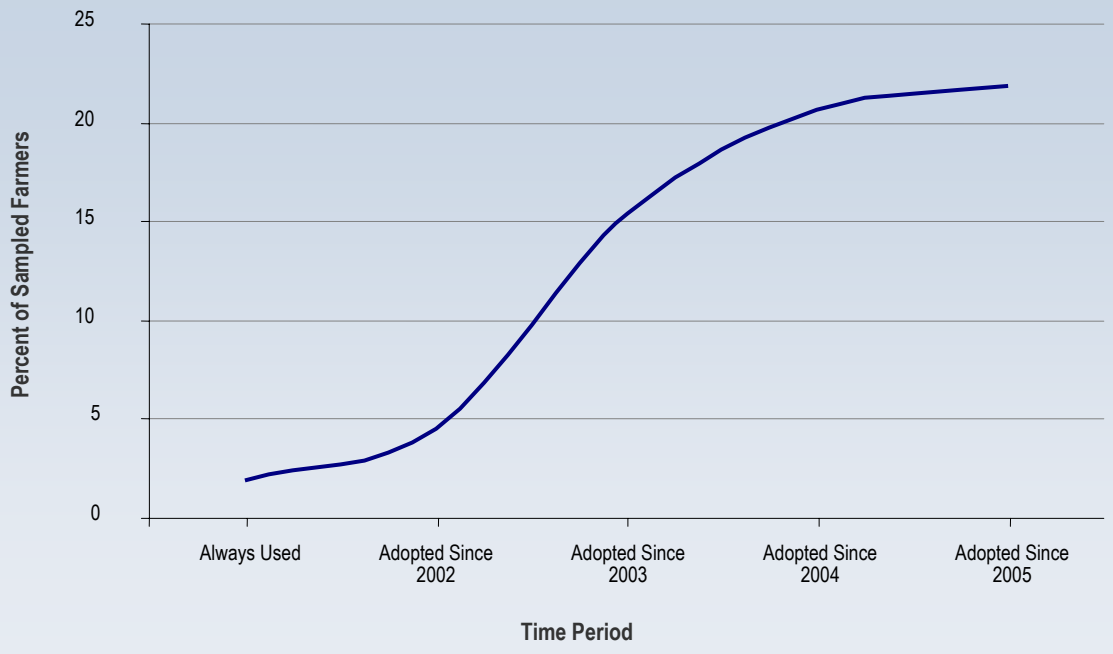

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Figure 4.3.11 Adoption of Individual Practices within Crop Category – Other Crops

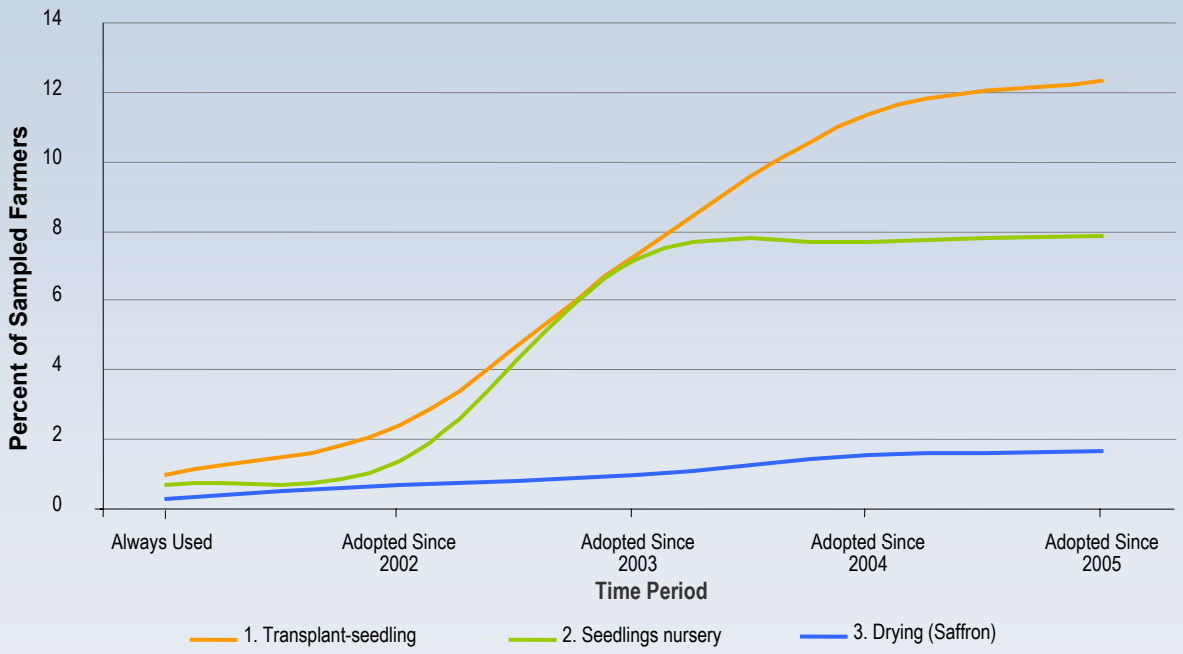

Figure 4.3.12 Overall Adoption of Recommended Practices for Crop Category - Fruits

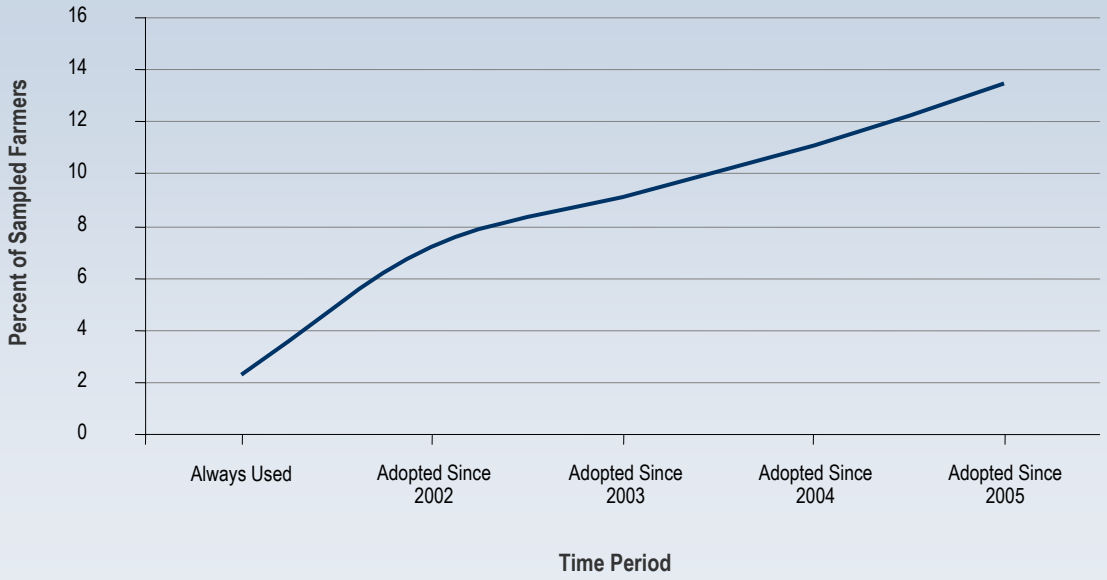

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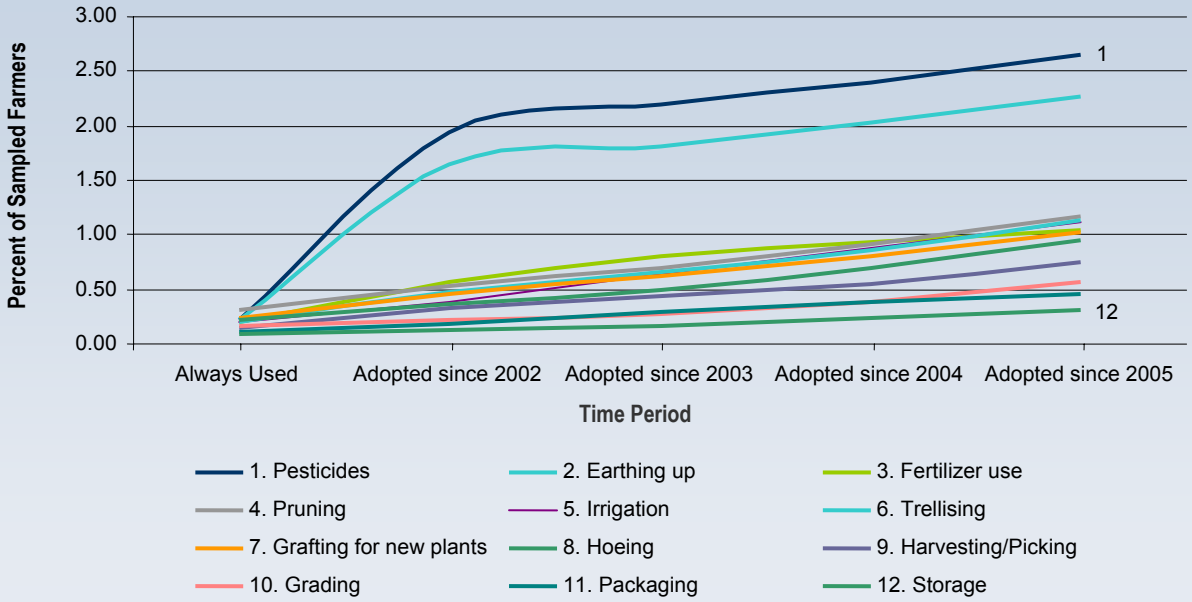
Figure 4.3.13 Adoption of Individual Practices within Crop Category – Fruits



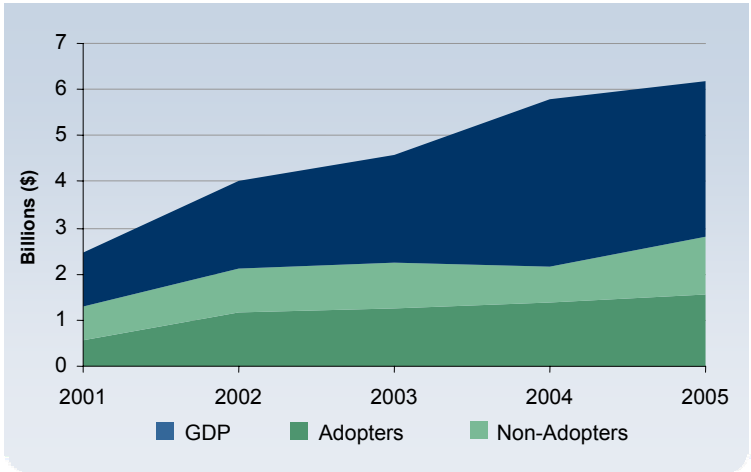
4.5 Impact on Afghan GDP

In recent years, the end of war, sound economic policies, and international assistance have generated significant rebound and diversification in Afghanistan's Gross Domestic Product (GDP). Afghan economy, however, remains primarily agro-based. Robust investment in agriculture will ensure that rural areas, home to 78 per cent of the Afghans, will not get bypassed and instead will be able to fully contribute in the economic recovery process underway in the country.

Figure (4.5.1) outlines the growth and diversification of Afghan GDP in billions of dollars. The lower half of the graph (summation of the share of adopters and non-adopters) shows the dollar share of agriculture in overall Afghan Gross Domestic Product from the years 2003 through 2005.

Extrapolating the estimated gains made by the adopters in the surveyed region to the entire country, it appears that farmers who have adopted the recommend agricultural practices, command an increasing share in Afghan agricultural GDP.As seen in the figure below, adopters are contributing more to the GDP than non-adopters.

Figure 4.5.1 Impact on Afghan Agriculture



(2005 GDP figures were generated from the Asian Development Bank's projections of 7.5 percent growth rate for the year. ** Share of agriculture in the overall GDP for 2005 is an estimate, based on the projections by the Afghanistan National Development Strategy Report 2005)*

4.6 Tangible Impact of RAMP's Proxy Extension Efforts through Demonstration Plots across Afghanistan

RAMP describes itself as "a central clearinghouse for over dozens of individual projects designed to speed up results and jump-start the agricultural economy".[1]

One of the critical focus areas for RAMP has been an increase in crop and livestock productivity and production through new technologies, new crop varieties, fertilizers and equipment. Hundreds of Demonstration Plots RAMP has set up, have been very successful in facilitating the transfer of technology in several areas of Afghanistan.

There is a significant correlation between the "farm settlement ratio" (number of demonstration plots/number of settlement in each province) and the adoption rates in the corresponding provinces (r= 0.79, significant at 10%).

Looking at the impact of RAMP interventions at the national level (GDP), it appears that the proposed practices and techniques are creating tangible benefits for the country.

To estimate the contribution of RAMP On-Farm Demonstrations in facilitating the transfer of appropriate technologies in the region, the overall adoption rate,

[1] www.ramp-af.com

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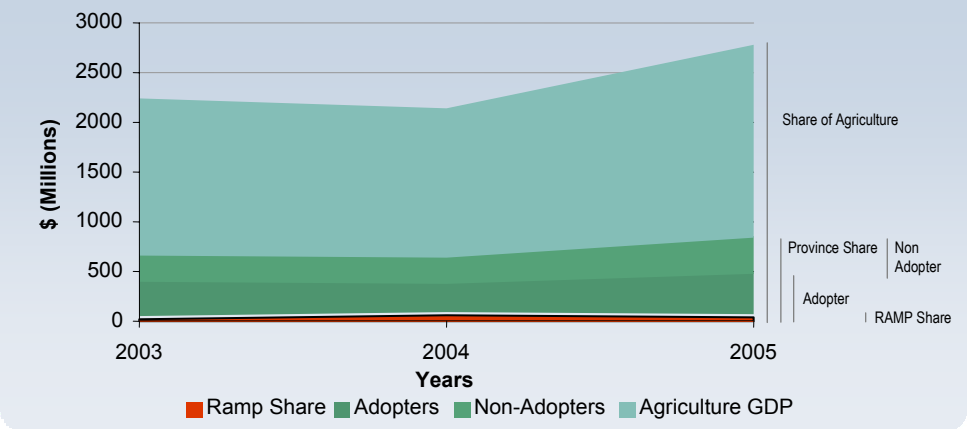
Figure 4.6.1 Dollar Share of RAMP On-Farm Demos in Afghanistan's GDP– by Year



was regressed on participation in activities initiated by RAMP through On-Farm Demonstrations. A simple bivariate regression model was used and R^2 of 17.9, 27.3 and 30.8 were attained for the years 2003, 2004, and 2005.

An R-squared measure of 17.9, for example, means that only 17.9% of the adoption rates variance can be explained by participation in RAMP Demo Farms. Thus, each year, a dollar amount chunk (corresponding to the attained R^2 for the year) of augmented agricultural production made by the adopters can be attributed to the facilitation of technology transfer through participation in activities generated at RAMP On-Farm Demonstrations. RAMP's direct share has been calculated using regression estimates above and as depicted in the figure 4.6.1 and Table 4.6.1; the findings of the Bridges On-Farm study suggest that the direct share of RAMP efforts in the GDP of the country can be cumulatively approximated at $89.77 million by the end of 2005. (Please refer to figure 4.6.1 and Table 4.6.1)

Table 4.6.1 Dollar Share of RAMP On-Farm Demos in Afghanistan's GDP – by Year

	Year	2003	2004	2005	Cumulative
A	Afghan Agricultural GDP *	2231	2146	2790	7167
B	Surveyed Region's Contribution to Afghan Agricultural GDP (cereal production used as a proxy)	669.3	643.80	837.44	2150.54
C	Share of Adopters in the regional GDP (based on % share of adopters in production for the sampled farmers)	381.17	408.81	460.35	1250.33
D	Share of Non Adopters in the Regional GDP	288.13	234.99	376.99	900.11
E	Share Attributable to Adoption (Difference Between the share of Adopters and Non-Adopters C - D)	93.04	173.82	83.36	350.22
F	R^2 (variance in Adoption rate Explained by Participation in Activities at RAMP Demo Farms)	0.179	0.273	0.308	
G	RAMP's Extension Intervention's $ Share E * G	**16.65**	**47.45**	**25.67**	**89.77**

**Values are in $ (Millions)*

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5 Discussion and Implications

Identifying and analyzing factors that influence adoption can help reach appropriate policy decisions, assess impact of extension programs, and help approach the clientele that requires the most attention.

5.1 Factors affecting technology adoption

Economists and sociologists have made extensive contributions to literature on adoption and diffusion of recommended agricultural practices (e.g. Feder et al., 1985; Rogers, 1995). Adoption has been theorized in a milieu of paradigms as a top down/bottom up, micro/macro and deterministic (technology based)/instrumentalist (social and human need based) phenomenon.

Though the technology based instrumentalist characteristics (perceived or real) of innovation are widely known to influence the adoption decision (Rogers, 1995), several other socio-economic and ecological factors play an even greater role in adoption decisions. This study approaches the process from a broader perspective of, both, user-perception and extension attributes. For this, we contend that the farmers' decision to adopt the recommended practices depends on institutional characteristics (such as information and interaction trough extension services), farm environment, as well as socio-economic attributes such as land tenure, labor availability, income, profitability, and access to credit and inputs.

Two related multifactor techniques, Logit and Probit analysis (Amemiya 1981: Feder et al. 1985) are particularly useful for analyzing data generated by adoption studies. Since logistic regression does not assume the linearity of relationship between the independent and the dependent variable, it does not require normally distributed variables, does not assume homoscedasticity, and in general has less stringent requirements. On the other hand Logit Model applies maximum likelihood estimation after transforming dependent into a logit variable making the interpretation not as straightforward as is the interpretation for linear regression

The betas in a logit model are called the model coefficients and can be used to, make predictions on dependent variable on the basis of independent variable, determine the percent of variance in the dependent variable explained by the predictors, and to rank the predictors by their relative importance.

For this study, various predictors were selected based on available literature on adoption and diffusion of technologies. Each variable, hypothesized (Chapter 2) to potentially influence adoption of recommended practices, was "fitted" into a logistic model and its contribution was assessed.

Table 5.1.1 shows the results. More specifically, it presents the beta coefficients of the parameters and the Wald statistic to establish their significance. The explanatory variables have been ranked according to the extent they explain changes in the dependant variable. The table also lists the maximum likelihood estimates, of various hypothesized parameters and their respective influence on the probability to adopt. Overall, the model achieved a 76 percent correct prediction (at $P < 0.001$, model chi square = 598.733 and a 1490.335 -2 log likelihood ratio). The corresponding figures for correct predictors of adopters and non-adopters of recommended practices were 79.9 and 71.8 percent respectively.

From the factors that were hypothesized to be influencing the model (chapter 2), nine were found to have a significant influence on the decision to adopt the recommended practices (Table 5.1.1). These include, a) *institutional characteristics*, such as information, farmer agent interaction, participation and distance from demo plots ; b) *economic–and market forces,* including access to inputs, access to markets, availably of family labor, and farmers perception of cost benefit ratio; c) *Environmental and Infrastructural Factors,* such as weather conditions, infrastructure, and finally d) *Farmer Characteristics,* such as farmer's age.

The beta coefficients obtained can be used to predict changes in the probabilities of technology adoption corresponding to per unit change in each predictor variable. A set of percent changes in the probability of adoption due to a unit change in the corresponding explanatory variable is presented in Table 5.1.2. To clarify what per unit change means for each variable in this model, the table also shows what survey items each predictor variable was composed of and how it was recoded before being entered into the model.

Table 5.1.1 Parameter Estimates for a Logistic Model of Factors Affecting Adoption Rate

Explanatory Variable	Parameter Estimate (β)	Wald Statistic	Exp (β) (odds ratio)
Media and Information Sources	1.082 ***	66.833	2.950
Access to inputs	0.909***	106.516	2.4803
Interaction	0.728 ***	37.899	2.070
Cost Benefit Ratio	0.649 **	11.629	1.910
Distance from Demo Plots	-0.616 ***	49.769	0.540
Participation	0.547***	27.610	1.73
Family Labor	-0.347 ***	10.447	0.710
External Factors	0.299***	11.912	1.350
Farmer's Age	0.202***	10.554	1.220
Distance from Market (minutes)	0.174 ***	8.906	1.190
Constant	0.550 ***	1.387	1.739
Model χ^2	598.793		
-2 Log likelihood	1490.334		
Overall cases correctly predicted	76.269		
Correctly predicted adopters	79.904		
Correctly predicted non-adopters	71.866		
Sample size	1596		

** = Significant at 5% probability *** = Significant at 1% probability

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Table 5.1.2 Percentage change in Probability

Variable	Description of Unit	Percentage Change in Probability Resulting from a Unit Change in the Variable
Institutional Characteristics		
Participation in Extension Activities *Participation (Survey Items a,c,d,j)*	1: 0-4; 2: 5-9; 3: 10 & above	2.82
Mass Media and Information Sources *Participation (Survey Items* g,h)	0: 0; 1: Other than 0	4.5
Interaction *Participation (Survey Items* e,f)	1: 0-4; 2: 5-9; 3: 10 & above	3.49
Distance from Demo Plots	1: 0-3; 2: 4-6; 3: 7-9; 4: 10-12	-5.25
Economic and Market Forces		
Distance from Market (minutes)	1: 0-59; 2: 60-119; 3: 120-179; 180 & above	1.05
Access to inputs *KASA (Survey Items c,d,e,f)*	1: 1-4; 2: 5-6; 3: 7-10	4.05
Cost Benefit Ratio	Mean Value for Benefits (Suvey Items K.e,f,g,h,i) / Mean Value for Costs (Survey Items K.a,b,c,d)	3.21
Family Labor	1: 0-6; 2: 7-12; 3: 13 & above	-2.63
Environmental and Infrastructural Factors		
External Factors *KASA (Survey Items l,m)*	1: 1-4; 2: 5-6; 3: 7-10	1.71
Farmer Characteristics		
Farmer's Age	1: < 36; 2: 36-45; 3: 46-55; 4: 56 & above	1.21

With a unit change in each of the following variables, participation in extension activities, extension literature, interaction with extension agents, access to inputs and resources, external factors, cost benefit analysis, distance from demo farm, family labor, distance from market (in minutes) and farmers' age, the probability of adopting the recommended practices increases by 2.82, 4.5, 3.49, -5.25, 1.05, 4.05, 3.21,-2.63, 1.71, and 1.21 percent respectively.

5.2 Discussion of Variables

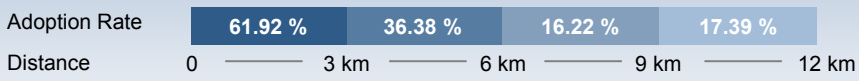
5.2.1 Institutional Characteristics

Sources of Information

In developing countries for farmers' to adopt the recommend practices dissemination of information on agricultural best practices is critical. Since, for decades, government extension services were severely undermined in Afghanistan, efforts to educate farmers about the potential benefits of improved technologies were almost non existent. However, things are changing!

Over 70 percent of adopters reported some access to information through mass media or literature (Figure 5.2.1). Yet again, the hypothesis was supported by the logit model above, indicating that the probability of adoption increases by 4.5 percent with a unit increase in access to "Mass Media and Information Sources."

Figure 5.2.2 Distance from Demo Farm



Interaction with extension agents

Contacts between extension agents and farmers have often stimulated adoption by formally introducing the farmers to recommended best practices (Polson and Spencer, 1991). Findings of Hussain et al. (1994) and Abdulai and Huffman (2004) support the hypothesis that training and visit (T&V) systems have had a positive influence on adoption.

The survey results indicate that more than 50 percent of the farmers who either went to the extension agents or were visited by the extension agents adopted the recommended practices. Table 5.2.1 shows that from within farmers who went to the extension agents, 66.38 percent adopted the technologies, whereas 63.84 percent of the farmers who were visited by the extension agents adopted the recommended practices.

Our model suggests that in Afghanistan the probability of adoption increases by 3.49 percent with just a unit increase in interaction with extension agents.

The strength of this link proves that (T&V) is still an effective approach used by extension providers to promote the adoption of recommend practices in Afghanistan.

Participation in extension activities

Table 5.2.1 Interaction between Farmers and Extension Agents

	No. of Farmers	Percentage Adopters	Percentage Non Adopters
Farmer went to Ext. Agent	1749	66.38	33.62
Ext. Agent went to Farmer	1958	63.84	36.16

In 1995, FAO introduced a "Strategic Extension Campaign" (SEC) methodology in Africa, the Near East, Asia and Latin America, which emphasized the importance of the target population's participation in strategic planning, systematic management and field implementation of agricultural extension and training programs (Adhikarya, 1996). Empirical evaluation studies of SEC methods applied to specific FAO-supported extension activities have reported positive changes in farmers' knowledge, attitudes and practices vis-à-vis the recommended technologies as well as significant economic benefits.

Our study substantiates similar findings in Afghanistan, where the probability of adoption increases by 2.82 percent with a unit increase in participatory extension activities.

For every extension activity, more than 50 percent of the surveyed population who participated in the extension activities adopted the recommendations. Among those activities, the field days were most effective where almost 70% of the participants adopted the recommended practices. The participants of the meetings and workshops showed similar eagerness to adopt (figure 5.2.1)

Access to demo farms

On Farm demonstrations are an excellent source of providing researchers with vital feedback on the performance of technologies and offering farmers an opportunity to learn hands on about these practices

Thus, distance from demo farms has been shown to be a significant factor influencing adoption (Marsh, Pannell & Linder, 2000). In their study of the adoption of trace element fertilizers, Linder et al (1982) concluded that distance to the sources of innovation was a barrier to adoption. They debated whether advances in communication technology would make distance irrelevant, but suspected that potential adopters would still face problems relating to distance from information source when trying to assess whether innovations were suitable for their specific area.

Figure 5.2.2 shows that adoption rate decreases as the distance from demo farms increases. More specifically, the adoption rate decreases from 61.92 percent to 17.39 percent over a distance of 12 kilometers. Results from the regression model show that as the distance from demo farm increases by a unit the probability of adoption decreases by 5.25 percent.

5.2.2 Economic and Market Forces

Access to inputs and resources

Availability of requisite as well as complementary inputs also affects the adoption patterns. For instance, farmers will only adopt innovations in seeds and fertilizers if they are able to acquire them.
In general, as can be concluded from the survey results, people who have access to resources such as finances and credit are more likely to adopt the recommended practices and a lack of such resources is the primary constraint to adoption (Figure 5.2.3).

Figure 5.1.3 shows that adopters had better access to modern implements than non adopters with mean values of responses measuring access (on a scale of 1-10 where 1 represents better access) as 5.7 and 6.75 respectively. Similarly as evident from the figure, adopters had better access to inputs, personal finances and credit facilities.

Thus, with a unit increase in access to inputs and resources, probability of adoption of recommended practices increases by 4.05 percent.

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Figure 5.2.1 Farmers' Participation in Extension Activities

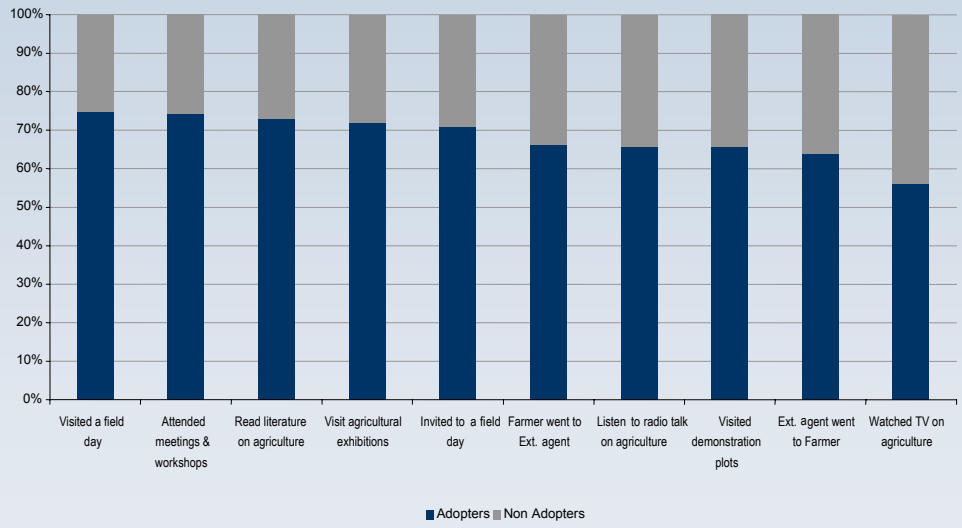
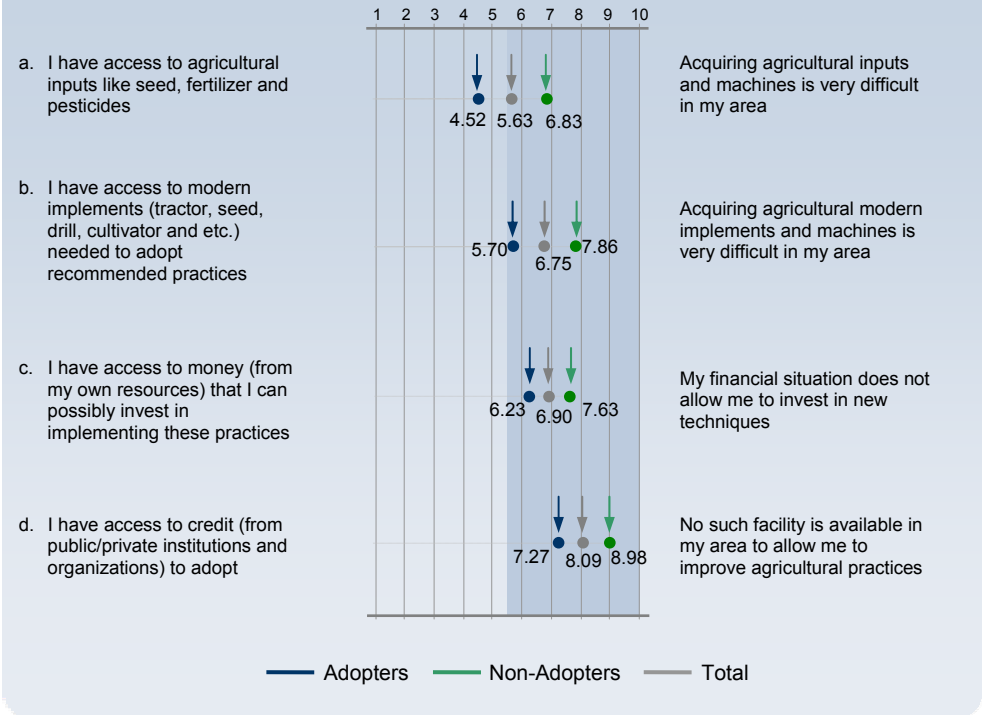


Figure 5.2.3 Access to Agricultural Inputs and Modern Implements



Access to Markets

Farmers' access to markets is yet another factor influencing the adoption decision. Being farther out from the markets can reduce the profitability of new technologies in several ways.

Foremost, distance to major centers can pose barriers to available professional support and could mean limited and costly access to complementary inputs. At the same time, distance to markets can increase the cost of storage, packaging and transportation. Also, distance creates an information barrier about market outlets, and increased costs of screening, bargaining with, and monitoring distant traditional partners. (Abdulai & Huffman, 2005)

Results from the survey show that as the distance from markets decreases by a unit the probability of adoption of new technologies increases by 1.05 percent.

Family Labor

Labor availability is another variable affecting farmer's decisions to adopt agricultural best practices or inputs. Some new technologies are relatively labor saving while others are labor intensive. Adoption of certain recommended practices may increase the demand for labor thus becoming less attractive for those with limited family labor.

Cost Benefit Ratio

With a unit increase in the cost benefit ratio, the probability of adoption increases by 3.21 percent. Thus, profitability considerations play an important role in farmers' decisions to adopt new technologies.
Economic considerations are the most important determinants of adoption decisions. Rational farmers will only choose the alternative that gives them the highest possible utility. Adoption rate maybe lower for technologies for which the farmer's perceive that by adopting that technology, they may

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jeopardize their capacity to sell their products at a higher price , or that they may encounter any problems due to its usage. Farmers will be more inclined to adopt practices for which the overall benefits are greater than the costs

5.2.3 External Factors

Favorable environmental conditions (better soil and water availability) increase the expected utility of income from modern production, hence increasing the probability that a farmer will adopt the new technology. (Feder, Just & Zilberman)

Results from the logistic regression signify that a unit improvement in environmental conditions will lead to a 1.71 percent increase in the probability of adopting the recommended practices.

From within the farmers who adopted, 64.87 percent were of the view that they can improve their agricultural practices despite an absence of suitable weather conditions. (Figure 5.2.4) From among the non-adopters, 57.11 percent of the respondents felt that if environmental conditions were not suitable, adoption of recommended practices was not a possibility.

Among agricultural inputs, water is the most important input for the agricultural sector and is critical to the maximization of farm productivity. Over the past twenty years, the irrigation system in Afghanistan has been damaged due to a lack of maintenance and repair causing severe problems for the Afghan farmers. The recurring droughts in Afghanistan are yet another impediment to increasing agricultural productivity.

At the same time, roads and transportation are critical to transport inputs and equipment and to market agricultural outputs. Agricultural sector in Afghanistan has suffered over the years due to poor irrigation facilities, dilapidated road conditions and damaged bridges (which adds to the transportation time and vehicle maintenance costs).

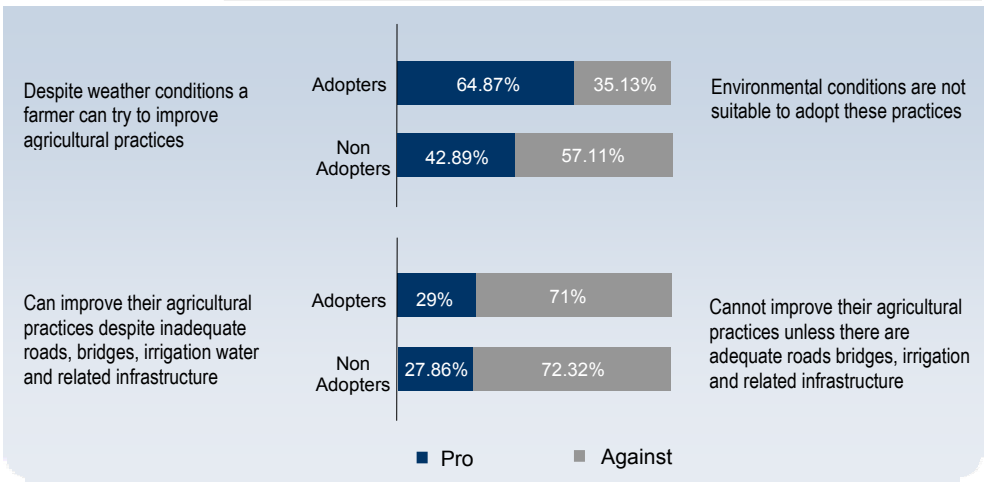
71 % of the adopting farmers and 72% of non adopting farmers seem to have a consensus that agricultural practices cannot be improved unless there are adequate roads, bridges, irrigation systems and related infrastructure present (Figure 5.2.4).

5.2.4 Farmer Characteristics

Farmers Age:

Two farmers considering exactly the same technology and operating in the same farming environment can still end

Figure 5.2.4 External Factors



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up making very different adoption decisions. Farmers' personal characteristics are a fourth set of factors that can affect technology adoption. This study highlights that in Afghanistan age is one such characteristic that influences the decision to, or not to, adopt a recommended practice. If Younger farmers are not credit constrained they are more likely to adopt the new technology compared to their older counterparts. However, if new technology requires a significant capital investment, young farmers may be most severely constrained. (Abdulai & Huffman). This appears to be the case in Afghanistan where older farmers have a slight edge in adopting to agricultural best practices.

5.3 Conclusions and Recommendations

The rationale for emphasizing provision of extension services in Afghanistan is based on the centrality of Agriculture in the Afghan economy. Since July 2003, this three-year program has been improving Afghan lives by enhancing food security, demonstrating new income generation opportunities, rehabilitating rural infrastructure, and strengthening the competitiveness of Afghanistan's agricultural products.

RAMP's extension activities, have had a clear and substantial influence on the adoption and diffusion of technological innovations in the country, yet 'gaps' in government policies and lack of institutional capacity in Afghanistan encumber these efforts. Findings of the RAMP Bridges On-Farm Study highlight the technical and socio-economic factors that should be considered in order to maintain the momentum generated and to further enhance the process of agricultural revival in Afghanistan.

The study points out that of all the variables affecting the adoption of recommended practices, institutional factors matter the most, including the information sources that are seen as having the highest impact on the probability that the farmers would adopt, Survey results also highlight the relative success of training and visit approach in facilitating adoption of recommended practices in Afghanistan. Farmer's saw these visits as the most useful extension strategy.

However, there is a need to strengthen the relevant institutional infrastructure to reap full benefits from these variables. If more demonstration plots are to be set up to maximize the effects of extension services, farmer's input and feedback must also be accommodated. The T & V system should not only convey information to the farmers but should also ease the reverse flow of information. This contact can be strengthened by increasing the ratio of farmers to extension agents and by increasing the frequency of visits. At the same time, training workshops for extension agents about existing and new technologies and practices would augment worker's confidence and knowledge. It would also increase awareness about new technologies among farmers.

There is dire need to increase literacy rates, especially for the rural population, and to ensure the provision of other modes of information dissemination (like electricity for television).

Availability of credit is equally vital for the success of any approach aimed at increasing agricultural productivity. Hence, unavailability of credit from formal and informal sources, high interest rates and unfavorable loan repayment terms are impediments to adoption of recommended practices and technological innovations. Therefore, though under RAMP,

initiatives have been taken to make finance more accessible, efforts are still needed to be directed towards making alternate funding sources available to the farmers, especially to the small-scale farmers. There is also a need to increase awareness about the types and sources of credit available to farmers. In addition, farmers should be encouraged to form service cooperatives or farmers' groups to reduce transaction costs and improve loan recovery rates.

In the long run, access to markets, roads, bridges, better irrigation networks and other infrastructure will all contribute to the adoption of agricultural best practices. Education and access to media and literature carry the potential to transform extension activities into a powerful tool in bringing about a green revolution in Afghanistan.

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Annex A

Survey Instrument in English
(with responses in percentages)

SURVEY LOG

A. Surveyor's Name	_____	**Supervisor's Name**	_____
B. Date Interview Conducted	*Day____ Month_____ Year_____*	**C. Time of Survey**	_____
D. Survey Zone	*A B C D E F*	**E. Province**	_____
F. District	_____	**G. Settlement**	_____
H. Coordinates	a. X-cord _____b. Y cord_____	**I. Altitude**	_____

SURVEY INSTRUMENT
(FINAL DRAFT)

RAMP-BRIDGES AFGHANISTAN On-Farm Study

Measuring Adoption and Impact of Technology
Through On-Farm Demonstrations

Funded by:

Rebuilding Agriculture Markets in Afghanistan Program (RAMP)

BRIDGES A DEVELOPMENT CONSORTIUM

RAMP

USAID

FARMER AND LAND HOLDING

A. The farmer is:		Individual owner **1**	Own with Extended Family **2**	Rent/Tenant **3**	Sharecropper **4**
B. Size of holding (Jerib)	a. Total _____	b. **90.8**	c._____	d. **2.9**	e. **6.3**
C. Source of irrigation (Jerib)	a. Rain-Fed	_____		b. Irrigated	_____

EXTENSION ACTIVITIES, PARTICIPATION AND REACTIONS

A. Activities	How often did the farmer	How useful did the farmer think these practices were for him: Very useful	Somewhat useful	Indifferent	Not so useful	Not useful at all
a. Visit demonstration plots	**2.47**	**75.7**	**15.0**	**6.2**	**1.3**	**1.8**
b. Was invited to a field day	**1.04**	**55.6**	**25.0**	**11.7**	**3.4**	**4.2**
c. Visit a field day	**1.01**	**53.4**	**25.2**	**12.8**	**3.3**	**5.3**
d. Attended meetings & workshops	**0.53**	**36.5**	**26.4**	**16.2**	**4.6**	**16.2**
e. Farmer went to the extension agent	**1.85**	**58.0**	**33.2**	**6.1**	**1.6**	**1.2**
f. The extension agent went to the farmer	**2.90**	**70.6**	**21.5**	**5.4**	**1.3**	**1.3**
g. Read literature	**0.38**	**29.8**	**19.7**	**11.9**	**13.3**	**25.3**
h. Listen to radio talk on agriculture	**1.89**	**54.2**	**26.1**	**8.6**	**4.7**	**6.4**
i. Watched TV program on agriculture	**0.14**	**22.8**	**20.2**	**10.8**	**9.8**	**36.4**
j. Visit agricultural exhibitions	**1.06**	**49.8**	**19.6**	**15.6**	**8.4**	**6.5**

KASA (KNOWLEDGE ATTITUDES/PERCEPTIONS SKILLS ASPIRATIONS) CHANGE

A. Does the farmer agree with the following statements: ("1" means the farmer agrees completely with the statement on the left; "10" means the farmer agree completely with the statement on the right; and if the farmers views fall somewhere in between, choose a number according to your assessment of their view.)

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
a. I know what agricultural extension services are	25.1	17.9	11.7	7.4	6.8	5.2	2.8	6.0	7.0	10.0	I am not clear on the role of extension services
b. I have met someone from extension services for agricultural related services	20.5	22.8	11.7	8.9	5.2	4.0	5.7	4.4	4.7	11.9	I don't know if there is any extension service or agent available in my area
c. I have access to agricultural inputs like, seed, fertilizer, pesticides	9.0	12.8	11.9	10.4	6.1	6.7	6.2	10.4	11.5	15.1	Acquiring Agricultural inputs and machines is very difficult in my areas
d. I have access to modern implements (Tractor, Seed Drill, Cultivator and etc.) needed to adopt recommended practices	4.5	8.9	8.9	7.2	4.7	5.7	8.8	11.3	13.3	26.7	Acquiring Agricultural modern implements and machines is very difficult in my areas
e. I have access to money (from my own resources) that I can possibly invest in implementing these practices	3.2	8.2	9.9	6.7	4.0	4.8	8.1	14.2	13.4	27.4	My financial situation does not allow me to invest in new techniques
f. I have access to credit (from public/private institutions and organizations) to adopt	1.8	5.0	3.7	3.8	3.3	4.5	6.1	10.1	12.8	49.0	No such facility is available in my area to allow me to improve agricultural practices
g. I am willing to adopt recommended practices if the credit is available for it	34.5	10.2	8.0	3.0	2.2	2.5	2.8	5.9	10.1	20.8	I will not want to borrow to implement these practices even if the credit was available
h. I am willing to adopt recommended practices even from my own sources											I will not spend my own money to cover the costs of adopting the recommended practices even if I had the money
i. Other farmers are adopting these practices too	26.6	12.7	13.5	7.3	5.3	3.9	3.4	6.4	9.1	11.8	Most other farmers are unsure about the utility of these practices
j. The benefits of using these techniques are worth the risks	18.8	18.9	15.4	10.4	8.0	7.3	3.9	5.6	5.0	6.7	There are risks involved in changing traditional practices
k. These practices are efficient in the long run	23.3	19.1	16.5	11.0	7.5	5.1	3.3	4.5	4.3	5.3	These practices waste time
l. I feel I **do** have enough knowledge and training to adopt these techniques	5.9	13.6	15.7	11.8	8.4	6.7	5.8	7.5	9.1	15.5	I feel I **do not** have enough knowledge and training to adopt to these techniques
m. Despite weather conditions a farmer can try to improve agricultural practices	8.2	11.3	15.1	11.2	8.4	5.5	5.9	8.6	7.7	18.1	The weather (drought, floods, snow) and other environmental conditions are not suitable to adopt these practices
n. Farmers can improve their agricultural practices despite inadequate roads, bridges, irrigation water and related infrastructure	3.3	5.8	6.2	7.7	5.2	3.9	3.6	7.9	15.3	40.9	Farmers cannot improve their agricultural practices unless there are adequate roads bridges, irrigation and related infrastructure
o. Women should participate in making decisions on agricultural practices	12.9	4.9	2.1	2.1	5.4	6.1	4.6	9.7	9.3	42.8	Women should not be burdened by these decisions
p. Labor shortages is not an issue on my farm	38.3	19.4	11.8	5.1	6.3	2.7	2.9	4.3	4.4	4.8	There is a shortage of farm labor in my area and at my farm

SEEC (SOCIO ECONOMIC AND ENVIRONMENTAL CONDITIONS) CHANGE—CROP, AREA UNDER CULTIVATION, YIELDS AND INPUTS INFORMATION)

	A. Main Crops Cultivated Winter 2003				B. Main Crops Cultivated Summer 2004			
	Crop 1	Crop 2	Crop 3	Crop 4	Crop 1	Crop 2	Crop 3	Crop 4
a. Crop	____	____	____	____	____	____	____	____
b. **Crop Variety**	____	____	____	____	____	____	____	____
c. Cultivated Area (jerib)	____	____	____	____	____	____	____	____
d. Seed Rate (kg/jerib)	____	____	____	____	____	____	____	____
e. Fertilizer Used	____	____	____	____	____	____	____	____
i. Urea (Bags/jerib)	____	____	____	____	____	____	____	____
ii. DAP (bags/jerib)	____	____	____	____	____	____	____	____
iii. Manure (kg/jerib)	____	____	____	____	____	____	____	____
iv. Amophous (bags/jerib)	____	____	____	____	____	____	____	____
v. Others (bags/jerib)	____	____	____	____	____	____	____	____
f. No of Sprays	____	____	____	____	____	____	____	____
i. Insect	____	____	____	____	____	____	____	____
ii. Diseases	____	____	____	____	____	____	____	____
iii. Weeds	____	____	____	____	____	____	____	____
g. Yield (kg/jerib)	____	____	____	____	____	____	____	____
h. Area's best Yield (kg/jerib)	____	____	____	____	____	____	____	____
i. % of yield sold in the market	____	____	____	____	____	____	____	____
j. Income current crop (kg/jerib)	____	____	____	____	____	____	____	____

	C. Main Crops Cultivated Winter 2004				D. Main Crops Cultivated Summer 2005			
	Crop 1	Crop 2	Crop 3	Crop 4	Crop 1	Crop 2	Crop 3	Crop 4
a. Crop	____	____	____	____	____	____	____	____
b. **Crop Variety**	____	____	____	____	____	____	____	____
c. Cultivated Area (jerib)	____	____	____	____	____	____	____	____
d. Seed Rate (kg/jerib)	____	____	____	____	____	____	____	____
e. Fertilizer Used	____	____	____	____	____	____	____	____
i. Urea (Bags/jerib)	____	____	____	____	____	____	____	____
ii. DAP (Bags/jerib)	____	____	____	____	____	____	____	____
iii. Manure (kg/jerib)	____	____	____	____	____	____	____	____
iv. Amophous (bags/jerib)	____	____	____	____	____	____	____	____
v. Others (bags/jerib)	____	____	____	____	____	____	____	____
f. No of Sprays	____	____	____	____	____	____	____	____
i. Insect	____	____	____	____	____	____	____	____
ii. Diseases	____	____	____	____	____	____	____	____
iii. Weeds	____	____	____	____	____	____	____	____
g. Yield (kg/jerib)	____	____	____	____	____	____	____	____
h. Area's best Yield (kg/jerib)	____	____	____	____	____	____	____	____
i. % of yield sold in the market	____	____	____	____	____	____	____	____
j. Income current crop (kg/jerib)	____	____	____	____	____	____	____	____

Main source of input (select one)	A. Winter 2003								B. Summer 2004							
	Self	Fellow Farmers	Villager	Donor Agencies	Local Initiatives like Seed Banks	Govt. Depot	Private Dealerships	Others	Self	Fellow Farmers	Villager	Donor Agencies	Local Initiatives like Seed Banks	Govt. Depot	Private Dealerships	Others
a. Seed	88.1	3.8	1.4	2.8	0.1	0.3	2.5	0.9	83.5	5.9	1.3	2.5		2.1	3.7	0.8
b. Fertilizers	0.4	6.3	32.3	1.9	0.6	0.1	56.4	2.0	0.3	4.5	34.4	1.4	0.7	0.4	56.2	2.0
c. Sprays (Pest, Disease, Herb)	0.7	1.0	26.8	0.8	0.9	0.3	67.2	2.4	0.2	0.6	23.8	0.6	0.8	0.4	72.2	1.4

E. Main sources of input (select one)	C. Winter 2004								D. Summer 2005							
	Self	Fellow Farmers	Villager	Donor Agencies	Local Initiatives like Seed Banks	Govt. Depot	Private Dealerships	Others	Self	Fellow Farmers	Villager	Donor Agencies	Local Initiatives like Seed Banks	Govt. Depot	Private Dealerships	Others
a. Seed	82.6	6.2	2.4	3.6	0.3	0.8	3.3	0.9	81.9	5.0	2.2	2.6	0.1	2.3	5.3	0.5
b. Fertilizers	0.3	4.4	35.6	2.5	0.5	0.8	53.4	2.4	0.5	4.4	35.1	1.7	0.5	0.7	54.9	2.1
c. Sprays (Pest, Disease, Herb)	0.3	0.9	25.7	2.8	0.7	0.8	65.0	3.8	0.3	0.3	26.2	1.8	0.4	0.3	68.9	1.7

PRACTICES CHANGE

Following chart lists various practices (according to the type of crops) that are being introduced across Afghanistan through demonstration plots and other field activities. Please interview the farmer on the adoption of the following practices and complete the form to the best of your effort.

	a. Level of practice			b. Time of adoption					c. Source learnt the practice from			
	Do not use	Use the listed practice but in its traditional form	Use the practice the way it is recommended	Have always used the recommended practice	Adopted since 2002	Adopted since 2003	Adopted since 2004	Adopted this year	Practices I learnt from Fellow farmers/village meetings, local dealers	Practices I learnt form Demo farms. Filed days	From the media (Radio/TV/Newspapers)	from Government extension and International groups
A. General Agricultural Practices	*(Circle one)*			*(Circle one)*					*(Circle one)*			
a. Timing of sowing the seeds	**9.9**	**74.3**	**15.8**	**37.1**	23.6	19.0	15.3	5.0	32.0	32.1	4.2	31.7
b. Land preparation/tillage practices	8.9	68.6	22.5	31.6	24.7	21.1	16.6	6.0	27.4	35.2	6.7	30.8
c. Seed Quality	10.4	60.4	29.2	28.5	22.2	20.4	20.0	8.9	23.6	34.7	8.6	33.1
d. Seed Amount	9.4	57.0	33.6	25.9	23.9	22.1	20.6	7.5	24.8	32.8	9.7	32.7
e. Sowing method	10.9	59.8	29.3	25.9	28.8	19.7	18.9	6.7	25.2	34.5	8.4	32.0
f. Fertilizer use	10.2	57.8	32.0	21.4	32.0	19.2	18.4	8.9	21.3	37.9	7.4	33.5
g. Irrigations practices	14.0	60.3	25.8	25.2	31.3	19.3	15.6	8.6	26.3	34.0	9.2	30.5
h. Weeding, rouging	17.9	46.5	35.5	21.8	27.7	20.6	20.0	9.9	23.4	38.8	9.3	28.5
i. Pesticide use	17.9	43.6	38.5	20.5	32.4	21.6	14.8	10.7	22.2	40.0	7.1	30.7
j. Harvesting practices	17.6	62.5	19.9	28.7	35.2	16.3	10.1	9.8	32.8	30.9	6.4	30.0
k. Threshing cleaning practices	19.3	59.4	21.2	32.5	30.6	16.4	10.2	10.4	33.3	33.4	6.5	26.8
l. Packaging practices	32.6	52.0	15.3	35.7	32.1	13.1	10.0	9.1	33.7	31.5	6.8	27.9
m. Storage practices	25.8	56.5	17.7	32.8	30.6	16.2	9.4	11.0	31.7	32.2	5.8	30.3
B. Rice												
a. Seedling populations	13.4	79.4	7.2	60.7	12.3	13.5	5.5	8.0	43.7	24.1	1.3	31.0
b. Transplanting practices	26.7	56.1	17.1	42.2	20.8	7.1	5.2	24.7	37.0	18.5		44.5
C. Oil seed												
a. Frequency of Hulling(Peanut)	96.4	3.6		87.2	6.4	2.1		4.3	76.6		6.4	17.0
b. Frequency Hoeing	77.2	22.8		70.0	12.0		2.0	16.0	70.2	2.1	2.1	25.5
D. Fiber crops												
a. Delinting(Cotton)	20.2	73.3	6.5	45.0	33.7	14.1	3.6	3.6	42.9	33.5	1.6	22.0
b. Gap filling	19.0	59.9	21.1	38.6	31.3	19.9	4.9	5.3	35.2	39.8	2.0	23.0
c. Hoeing(Cotton)	17.6	40.3	42.1	35.1	25.1	16.5	9.1	14.3	28.2	29.5	10.3	32.1
d. Earthing up	19.4	41.8	38.8	39.1	22.3	13.2	9.1	16.4	24.8	24.8	12.4	38.1
e. Thinning (Cotton)	18.8	41.4	39.7	34.6	25.2	14.6	6.5	19.1	17.0	24.3	11.3	47.4
E. Vegetable												
a. Seedlings nursery related practices	18.8	69.2	12.0	43.8	21.7	14.0	10.2	10.2	46.4	16.4	1.6	35.6
b. Earthing up dehaulming	20.4	56.1	23.5	42.2	25.8	11.9	10.7	9.4	36.8	15.1	6.2	41.9
c. Green house	32.4	45.9	21.7	50.8	21.2	12.1	5.3	10.6	40.7	15.7	4.3	39.3
F. Other crops												
a. Seedlings nursery	11.5	68.5	19.9	33.6	22.7	36.2	2.6	4.8	26.4	47.2	4.8	21.6
b. Transplant-seedling	22.8	40.8	36.4	36.1	16.5	20.6	17.0	9.8	25.5	13.8	20.4	40.3
c. Drying (Saffron)	33.9	58.8	7.3	40.7	22.0	30.1	4.1	3.3	34.4	41.6	7.2	16.8
H. Fruits												
a. Fertilizer use	7.4	82.1	10.6	30.2	41.4	8.5	14.3	5.6	22.5	12.4	3.0	62.1
b. Irrigation	18.2	70.6	11.2	47.9	24.9	8.3	11.6	7.3	49.2	22.1	4.8	23.9
c. Trellising	32.7	47.1	20.2	32.2	18.0	20.0	14.1	15.7	27.5	18.3	13.6	40.7
d. Pruning	32.0	53.2	14.8	42.4	11.2	26.0	10.5	9.9	41.8	10.4	8.4	39.5
e. Earthing up	31.7	40.7	27.6	36.7	37.8	7.0	8.4	10.2	35.1	15.2	7.3	42.4
f. Hoeing	31.8	54.7	13.4	43.2	30.7	7.7	10.7	7.7	45.8	11.1	7.5	35.6
g. Grafting for new plants	28.9	50.4	20.7	34.3	18.7	11.7	18.7	16.5	24.0	22.6	10.1	43.2
h. Pesticides	14.6	53.3	32.1	24.1	45.8	10.4	12.6	7.1	20.4	31.9	7.2	40.6
i. Harvesting/Picking	25.3	66.6	8.1	57.5	19.3	7.7	8.2	7.4	52.7	11.4	7.5	28.4
j. Grading	29.9	62.7	7.4	33.3	41.8	7.9	9.8	7.1	31.8	13.6	6.0	48.6
k. Packaging	37.2	55.6	7.2	41.9	19.2	27.8	7.2	3.9	33.6	9.1	4.9	52.5
l. Storage	42.9	52.7	4.4	55.9	28.8	3.5	5.9	5.9	44.6	5.0	3.0	47.5

FARM AREA PROFILE

A. Population (nearest settlement)

1. Less then 1000 **50.7** 2. Between 1000 – 25000 **45.6** 3. More then 25000 – 50000 **2.8** 4. 50000 and above **0.9**

B. How far are you from the market?

a. Distance **20.5521** Km. b. Time. **117.72** Minutes.

C. What percent of the road you use for market access is

a. Paved **55.1238** b. Un-Paved **61.7124** c. No road **49.6515**

D. Please rate the following GOVERNMENT services available in your settlement	Does not Exist	Poor	Fair	Good	Very Good
a. Police protection	0	58.8	18.3	19.5	3.4
b. Condition of the roads	0	53.4	33.5	10.3	2.9
c. Health System	0	40.6	51.4	7.9	0.2
d. Condition of the schools	0	34.2	52.6	12.8	0.4
e. Condition of the water and irrigation system	0	55.3	38.7	5.8	0.2
f. Electricity condition	0	64.7	27.2	7.0	1.1
g. Availability of inputs (fertilizer/pesticide dealers)	0	61.8	32.4	5.0	0.9
h. Extension office	0	64.6	24.2	7.6	3.6
i. Irrigation department	0	58.6	31.3	6.2	3.9
j. Credit facilities	0	72.1	22.3	3.6	2.0
k. Opportunities to sell produce outside the village (e.g. buyers, transporters)	0	55.9	35.5	8.3	0.3
l. Overall	0	71.1	27.2	1.3	0.3

FARMER'S BACKGROUND

Finally, we need to ask a few questions about your background and past experiences. This information, as with all information provided in this survey, will only be used for statistical analysis and will remain strictly confidential.

A. Respondent farmer's Age? 44.84 Years

B. Respondent farmer's Gender? ***(circle your answer)***

1. Male **99.7** 2. Female **0.3**

C. Farmer's highest level of formal education attained? (*circle your answer*)

1. Illiterate **68.9** 2. Primary **10.2**
3. Secondary **8.6** 4. Intermediate **4.0**
5. Some College **7.6** 6. Bachelor's degree **0.8**

D. Farmer's current marital status? (*circle your answer*)

1. Single **4.7** 2. Married **94.9**
3. Divorced 4. Widowed **0.4**

E. What is your mother tongue? (select one)

2. Dari **19.4** 1. Pushto **78.8** 2. Turkmen **0.8** 4. Uzbek **1.0** 5. Other _____

F. Agriculture is the respondent farmer's?

1. Primary Occupation **96.6** 2. Secondary Occupation **3.4**

G. If the farmer has a second occupation, please list_____.

H. Approximate Household Income from all Sources is

a. 89,791.9256 in Afghanis) b. 75.9442 % of it is from farming

I. How many of the following individuals, including the farmer, live in the farmer's household?

a. Male/s More than 16 years _____ persons b. Male/s Less than 16 years _____ persons
c. Female/s More than 16 years _____ persons d. Female/s Less than 16 years _____ persons

J. How many of the following individuals in the household, including the farmer, participate in farming?

a. Male/s More than 16 years **3.01** persons b. Male/s Less than 16 years **3.56** persons
c. Female/s More than 16 years **2.59** persons d. Female/s Less than 16 years **2.79** persons

K. What does the farmer think of the cost and benefits of adopting the new techniques	Low	Medium	High	Don't know
COSTS				
a. Application of inputs (seed, fertilizer, sprays)	29.5	41.6	28.8	0
b. Input application equipment	34.9	39.5	25.6	0
c. Time	44.8	33.5	21.7	0
d. Labor	37.0	33.2	29.8	0
BENEFITS				
e. Increased farm average yield and income	29.4	39.4	31.2	0
f. Decreased risk in yield	32.8	44.4	22.9	0
g. Selection of hybrid and varieties	27.9	45.5	26.6	0
h. Increased knowledge and information of farm management	30.5	44.2	25.3	0
i. Improved living standards	48.3	35.7	16.0	0

Annex B

Survey Instrument in Dari

(Zone - Team - Survey) _____ - _____ - _____
To be filled by the data entry operator

جدول درج معلومات راجع به سروی

الف. اسم شخص سروی کننده	_____	اسم ناظر (سوپروایزر)	_____
ب. تاریخ مصاحبه با دهقان	روز_____ ماه_____ سال_____	ج. وقت یا زمان سروی	_____
د. منطقه (زون) سروی	A B C D E F	ه. ولایت	_____
و. ولسوالی	_____	ز. محل مسکونی (قریه)	_____
ح. مختصات (کوآردینات ها)	1. وتر X_____ 2. وتر Y_____	ط. ارتفاع از سطح بحر	_____ متر

سند (فورمه) سروی

سنجش و اندازه گیری پیمانه استفاده از روشهای جدید و تاثیر تکنالوژی
از طریق نمایشات بالای مزرعه زراعتی

مرجع تمویل کننده:

برنامه احیای مجدد بازارهای زراعتی افغانستان (رمپ)

دهقان و زمینداری

أ. دهقان:

مالک	اجاره	دهقانی
1	2	3

ب. اندازه زمینداری (جریب) الف. مجموع . _____ ب. _____ ج. _____ د. _____

ت. منبع آبیاری (جریب) الف. للمی. _____ ب. آبی _____

فعالیتها، سهم گیری و عکس العمل های ترویج

أ. فعالیتها	هقان چند مرتبه این فعالیتها را انجام داده	ایا دهقان فکر میکرد که این فعالیتها برای وی چقدر مفید بوده است: زیاد مفید است	کم مفید است	جزئی مفید است	آنقدر مفید نیس	هیچ مفید نیست
الف. بازدید از قطعات نمایشی	_____	1	2	3	4	5
ب. دعوت به روز ساحه	_____	1	2	3	4	5
ج. بازدید ازروز ساحه	_____	1	2	3	4	5
د. شرکت در جلسات و ورکشاپها	_____	1	2	3	4	5
ه. رفتن دهقان به نماینده ترویج	_____	1	2	3	4	5
و. رفتن نماینده ترویج به دهقان	_____	1	2	3	4	5
ز. مطالعه نشریه های پروگرام	_____	1	2	3	4	5
ح. شنیدن پروگرام ها زراعتی از رادیو	_____	1	2	3	4	5
ط. دیدن پروگرامهای زراعتی در تلویزیون	_____	1	2	3	4	5
ی. بازدید از نمایشات زراعتی	_____	1	2	3	4	5

تغیر وتبادله کاسا (معلومات و دانش،وضعیت/ احساسات، مهارتها، خواهشات)

أ. آیا دهقان با مواد ذیل موافق است: ("1" به این معنی که دهقان بطور مکمل با ماده که در طرف چپ قرار دارد موافق میباشد، "10" به این معنی که دهقان بطور مکمل با ماده که در طرف راست قرار دارد موافق میباشد، و اگر نظریات دهاقین در یکجا در میان اصابت کند، در این صورت شماره را مطابق ارزیابی خویش و نظریات آنها انتخاب نمایید.

الف. من راجع به خدمات ترویج زراعتی میدانم.	1	2	3	4	5	6	7	8	9	10	من بطور واضح راجع به نقش خدمات ترویج نمیدانم.
ب. من با یک نفر از بخش خدمات ترویج مربوط به خدمات زراعتی ملاقات نمودم.	1	2	3	4	5	6	7	8	9	10	در منطقه خویش راجع به موجودیت خدمات و نماینده ترویج معلومات ندارم.
ت. من به مواد اولیه زراعتی مانند تخم بذری، کود کیمیاوی و ادویه های ضد آفات دسترسی دارم.	1	2	3	4	5	6	7	8	9	10	درمنطقه ما بدست آوردن مواد اولیه و ماشین آلات زراعتی بسیار زیاد مشکل میباشد.
ث. من به آلات و ابزار جدید (تراکتور، تخم پاش ماشین زرع و غیره) دسترسی دارم	1	2	3	4	5	6	7	8	9	10	در منطقه ما بدست اوردن آلات و ابزار جدید زراعتی بسیار زیاد مشکل میباشد.
ج. من از منابع خویش به پول دسترسی دارم و شاید آز آن برای بدست آورد این روشها استفاده کرد	1	2	3	4	5	6	7	8	9	10	وضعیت اقتصادی من اجازه نمیدهد که برای بدست آوردن تخنیک های جدید سرمایه گذاری کنم
ح. من از موسسات و ادارات عمومی/خصوصی به قرضه دسترسی دارم تا روشهای زراعتی را اتخاذ نمایم.	1	2	3	4	5	6	7	8	9	10	در منطقه من برای بهبود و اصلاحات روشهای زراعتی هیچ نوع امکانات وجود ندارد.
خ. من میخواهم برای اتخاذ نمودن روشهای توصیه شده قرضه بیگیرم.	1	2	3	4	5	6	7	8	9	10	من نمیخواهم برای بدست آوردن این روشها قرضه بیگیرم، در صورتیکه برایش قرضه موجودباشد.
د. سایر دهاقین نیز این روشها را اتخاذ مینمایند.	1	2	3	4	5	6	7	8	9	10	بسیار از دیگران راجع به منفعت این روشها مطمئین نیستند.
ذ. استفاده از این تخنیک ها برای از بین بردن خطرات حایز اهمیت میباشد.	1	2	3	4	5	6	7	8	9	10	تغیر و تبادله خطرات را در بر دارد.
ر. . این روشها در کارهاي طولانی مؤثر میباشد.	1	2	3	4	5	6	7	8	9	10	این روشها ضیاع وقت میباشد.
ز. من احساس میکنم که برای اتخاذ نمودن این تخنیک ها معلومات و تربیه کافی دارم.	1	2	3	4	5	6	7	8	9	10	من احساس میکنم که برای اتخاذ نمودن این تخنیک ها معلومات و تربیه کافی ندارم.
س. با وجود شرایط اقلیمی دهقان میتواند برای اصلاح و بهبود روشهای زراعتی سعی نماید. نمیباشد.	1	2	3	4	5	6	7	8	9	10	شرایط اقلیمی (خوشکسالی، سیلابها و برف) و دیگر شرایط محیطی برای اتخاذ نمودن این روشها مساعد
ش. دهاقین میتوانند روشهاي زراعتي خویش را با وجود عدم موجودیت سرکها، پل ها ،آب آبیاری و زیربناء کافی اصلاح و بهبود بخشند.	1	2	3	4	5	6	7	8	9	10	دهاقین نمیتوانند بدون سرکها، پل ها ، آبیاری و زیربنا مربوطه کافی روشهای زراعتی خویش را اصلاح و بهبود بخشند.
ص.زنان باید راجع به روشهای زراعتی باهم یکجا تصمیم بگیرند.	1	2	3	4	5	6	7	8	9	10	زنان باید مسؤلیت این تصامیم را نداشته باشد.
ض.در مزرعه من کمبود کار گر کدام مسئله و موضوع خاص نمیباشد.	1	2	3	4	5	6	7	8	9	10	در منطقه و مزرعه من کمبود کارگر موجود میباشد.

SEEC(شرایط محیطی و اقتصادی جامعه) تغیر و تبادله محصولات – ساحه تحت کشت زراعتی – معلومات در باره پیداوار و مواد مورد ضرورت زراعت

	الف: نباتهای عمده کشت شده گی تابستان 2005				ب: نباتهای عمده کشت شده گی زمستان 2004					ج: نباتهای عمده کشت شده گی تابستان 2004				د: نباتهای عمده کشت شده گی زمستان 2003			
	نبات اول	نبات دوم	نبات سوم	نبات چهارم		نبات اول	نبات دوم	نبات سوم	نبات چهارم		نبات اول	نبات دوم	نبات سوم	نبات چهارم	نبات اول	نبات دوم	نبات سوم	نبات چهارم
k. نبات	____	____	____	____	k. نبات	____	____	____	____	k. نبات	____	____	____	____	____	____	____	____
l. نوع نبات	____	____	____	____	l. نوعیت نبات	____	____	____	____	l. نوعیت نبات	____	____	____	____	____	____	____	____
m. ساحه کشت شده (در جریب)	____	____	____	____	m. ساحه کشت شده (در جریب)	____	____	____	____	m. ساحه کشت شده (در جریب)	____	____	____	____	____	____	____	____
n. اندازه تخم بذری (کلوگرام / جریب)	____	____	____	____	n. اندازه تخم بذری (کلوگرام / جریب)	____	____	____	____	n. اندازه تخم بذری (کلوگرام / جریب)	____	____	____	____	____	____	____	____
o. نها ل تخمی (دد جریب)	____	____	____	____	o. نها ل تخمی (دد جریب)	____	____	____	____	o. نها ل تخمی (دد جریب)	____	____	____	____	____	____	____	____
p. کود استعمال شده					p. کود استعمال شده					p. کود استعمال شده								
vi. یوریا (بوجی/جریب)	____	____	____	____	i. یوریا (بوجی/جریب)	____	____	____	____	i. یوریا (بوجی/جریب)	____	____	____	____	____	____	____	____
vii. دی- ای- پی (بوجی/جریب)	____	____	____	____	ii. دی-ای-پی (بوجی/جریب)	____	____	____	____	ii. دی-ای-پی (بوجی/جریب)	____	____	____	____	____	____	____	____
viii. کود حیوانی (بارمرکب فی جریب)	____	____	____	____	iii. کود حیوانی (بارمرکب/جریب)	____	____	____	____	iii. کود حیوانی (بارمرکب/جریب)	____	____	____	____	____	____	____	____
ix. کود نامعلوم (بوجی/جریب)	____	____	____	____	iv. کود نامعلوم (بوجی/جریب)	____	____	____	____	iv. کود نامعلوم (بوجی/جریب)	____	____	____	____	____	____	____	____
x. کود دیگر (بوجی/جریب)	____	____	____	____	v. کود دیگر (بوجی / جریب)	____	____	____	____	v. کود دیگر (بوجی / جریب)	____	____	____	____	____	____	____	____
q. تعداد واقعات دواپاشی					q. تعداد واقعات دواپاشی					q. تعداد واقعات دواپاشی								
iv. حشرات	____	____	____	____	i. حشرات	____	____	____	____	i. حشرات	____	____	____	____	____	____	____	____
v. امراض	____	____	____	____	ii. امراض	____	____	____	____	ii. امراض	____	____	____	____	____	____	____	____
vi. گیاه هرزه	____	____	____	____	iii. گیاهای هرزه	____	____	____	____	iii. گیاهای هرزه	____	____	____	____	____	____	____	____
r. محصولات (کلوگرام/جریب)	____	____	____	____	r. محصولات (کلوگرام/جریب)	____	____	____	____	r. محصولات (کلوگرام/جریب)	____	____	____	____	____	____	____	____
s. بهترین محصولات (کلوگرام/جریب)	____	____	____	____	s. محصولات بهترین (کلوگرام/جریب)	____	____	____	____	s. محصولات بهترین (کلوگرام/جریب)	____	____	____	____	____	____	____	____
t. فیصدی محصولات که به فروش رسانده شده	____	____	____	____	t. فیصدی محصولات که به فروش رسانده شده	____	____	____	____	t. فیصدی محصولات که به فروش رسانده شده	____	____	____	____	____	____	____	____
u. عایدات فعلی (افغانی/ کلوگرام) نبات	____	____	____	____	u. عایدات فعلی (افغانی/ کلوگرام)نبات	____	____	____	____	u. عایدات فعلی (افغانی/ کلوگرام)نبات	____	____	____	____	____	____	____	____

منبع عمده مواد مورد ضرورت زراعتی (یکی را انتخاب نمایید)	الف: تابستان 2005								ب: زمستان 2004								**E.** منبع عمده مواد مورد ضرورت زراعتی (یکی را انتخاب نمایید)	ت: تابستان 2004								ج: زمستان 2003							
	خود	دهقان شریکی	دکان ده قریه	مرجع تمویل کننده	مرجع محلی (قسم بانک تخم بذری)	دیپارتمنت دولتی	شرکتهای تجاری شخصی	دیگرها	خود	دهقان شریکی	دکان ده قریه	مرجع تمویل کننده	مرجع محلی (قسم بانک تخم بذری)	دیپارتمنت دولتی	شرکتهای تجاری شخصی	دیگرها		خود	دهقان شریکی	دکان ده قریه	مرجع تمویل کننده	مرجع محلی (قسم بانک تخم بذری)	دیپارتمنت دولتی	شرکتهای تجاری شخصی	دیگرها	خود	دهقان شریکی	دکان ده قریه	مرجع تمویل کننده	مرجع محلی (قسم بانک تخم بذری)	دیپارتمنت دولتی	شرکتهای تجاری شخصی	دیگرها
d. تخم بذری	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	d. تخم بذری	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
e. کود	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	e. کودها	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
f. دواپاشی(افات, گیاه هرزه,مریضی)	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	g. دواپاشی(افات, گیاه هرزه,مریضی)	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8

استفاده از روشهای جدید

در چارت ذیل، روشهای مختلف (مطابق نوعیت غله جات) که در سراسر افغانستان از طریق قطعات نمایشی و سایر فعالیتهای ساحوی معرفی شده است. لطفاً در مورد استفاده از روشهای ذیل با دهقان مصاحبه نمایید نتیجه مصاحبه را درج این فورمه نمایید (فورمه را مطابق معلومات بدست آمده، خانه پری نمایید).

	1. سطح استفاده از روشها			2. وقت/زمان استفاده از روشها					3. منبع که روشهای جدید را از آن آموخته اید			
	هیچ استفاده صورت نگرفته است	از روش جدید استفاده صورت گرفته است، ولی بشکل سنتی آن	از روشهای جدید بشکل که پیشنهاد شده است، استفاده صورت گرفته است	همیشه از روشهای پیشنهاد شده استفاده صورت گرفته است	از سال 2002 بدینسو استفاده صورت میگیرد	از سال 2003 بدینسو استفاده صورت میگیرد	از سال 2004 بدینسو استفاده صورت میگیرد	در سال جاری استفاده از روشها صورت گرفت	روشهای جدید را از سایر دهقین یا در طی جلسه های قریه و یا از فروشنده های محلی آموخته ام	روشهای جدید را از طریق قطعات نمایشی آموخته ام	از طریق رسانه ها گروهی آموخته ام (تلویزیون، رادیو، روزنامه)	از مامورین ترویج مربوط به دولت و یا مراجع بین المللی آموخته ام
الف. روشهای عمومی زراعتی	**(یکی را حلقه نمایید)**			**(یکی را حلقه نمایید)**					**(یکی را حلقه نمایید)**			
1. تنظیم وقت کشت تخم بذری	1	2	3	1	2	3	4	5	1	2	3	4
2. آماده نمودن زمین برای کشت/روشهای کشت و زرع	1	2	3	1	2	3	4	5	1	2	3	4
3. کیفیت تخم بذری	1	2	3	1	2	3	4	5	1	2	3	4
4. مقدار تخم بذری	1	2	3	1	2	3	4	5	1	2	3	4
5. میتود یا طریقه کشت	1	2	3	1	2	3	4	5	1	2	3	4
6. استفاده کود کیمیاوی	1	2	3	1	2	3	4	5	1	2	3	4
7. روشهای آبیاری	1	2	3	1	2	3	4	5	1	2	3	4
8. خیشاوه نمودن و یا دور نموده علف و گیاه های هرزه	1	2	3	1	2	3	4	5	1	2	3	4
9. استفاده دوا های ضد آفات زراعتی	1	2	3	1	2	3	4	5	1	2	3	4
10. روشهای جمع آوری حاصلات	1	2	3	1	2	3	4	5	1	2	3	4
11. روشهای پاکاری خرمن	1	2	3	1	2	3	4	5	1	2	3	4
12. روشهای بسته بندی نمودن	1	2	3	1	2	3	4	5	1	2	3	4
13. روشهای ذخیره نمودن	1	2	3	1	2	3	4	5	1	2	3	4
ب. برنج												
1. تعداد یا مقدار نهالی برنج (شالی)	1	2	3	1	2	3	4	5	1	2	3	4
2. روشهای پیوند	1	2	3	1	2	3	4	5	1	2	3	4
ج. نباتات تیلی												
1. پوست کردن (جلغوزه)	1	2	3	1	2	3	4	5	1	2	3	4
2. تناوب (فریکوینسی) کج بیل زدن	1	2	3	1	2	3	4	5	1	2	3	4
د. نباتات الیافی												
1. جدا نمودن پنبه و دانه	1	2	3	1	2	3	4	5	1	2	3	4
2. پرکردن مسافه ها	1	2	3	1	2	3	4	5	1	2	3	4
3. کج بیل زدن (پنبه)	1	2	3	1	2	3	4	5	1	2	3	4
4. خاک انداختن یا خاک دادن	1	2	3	1	2	3	4	5	1	2	3	4
5. یکه کردن	1	2	3	1	2	3	4	5	1	2	3	4
ه. سبزیجات												
1. روشهای مربوط به نگهداری نهالی ها	1	2	3	1	2	3	4	5	1	2	3	4
2. خاک دادن و جدا نمودن برگ ها	1	2	3	1	2	3	4	5	1	2	3	4
3. گلخانه	1	2	3	1	2	3	4	5	1	2	3	4
و. سایر غله جات												
1. نگهداری نهالی ها	1	2	3	1	2	3	4	5	1	2	3	4
2. پیوند نهالی ها	1	2	3	1	2	3	4	5	1	2	3	4
3. خشک نمودن (زعفران)	1	2	3	1	2	3	4	5	1	2	3	4
ز. میوه جات												
1. استفاده و استعمال کود کیمیاوی	1	2	3	1	2	3	4	5	1	2	3	4
2. آبیاری	1	2	3	1	2	3	4	5	1	2	3	4
3. چیله نمودن	1	2	3	1	2	3	4	5	1	2	3	4
4. شاخه بری	1	2	3	1	2	3	4	5	1	2	3	4
5. خاک دادن	1	2	3	1	2	3	4	5	1	2	3	4
6. کج بیل زدن	1	2	3	1	2	3	4	5	1	2	3	4
7. پیوند برای میوه های جدید	1	2	3	1	2	3	4	5	1	2	3	4
8. ادویه ضد آفات نباتی	1	2	3	1	2	3	4	5	1	2	3	4
9. حاصل برداری و جمع آوری حاصلات	1	2	3	1	2	3	4	5	1	2	3	4
10. درجه بندی	1	2	3	1	2	3	4	5	1	2	3	4
11. بسته بندی نمودن	1	2	3	1	2	3	4	5	1	2	3	4
12. ذخیره نمودن	1	2	3	1	2	3	4	5	1	2	3	4

مشخصات ساحه مزرعه (فارم)

الف. نفوس یا جمعیت (نزدیکترین ساحه مسکونی)
1. کمتر از 1000 2. بین 1000 الی 25000 3. بیشتر از 25000 الی 50000 4. بالاتر از 50000

ب. شما از بازار چقدر فاصله دارید؟
1. فاصله: _____ کیلومتر 2. زمان: _____ دقیقه

ج. برای دسترسی و رسیدن به بازار، چند در صد از سرک استفاده میکنید:
1. سرک اسفالت شده (قیر): _____ 2. سرک اسفالت نشده (خامه): _____ 3. هیچ از سرک استفاده نمیکنید: _____

د. لطفاً خدمات ذیل دولت را که در محل مسکونی تان موجود میباشد، شماره بدهید:	هیچ وجود ندارد	بسیار کم	متوسط	خوب	بسیار خوب
1. حفاظت پولیس	0	1	2	3	4
2. وضعیت سرک ها	0	1	2	3	4
3. سیستم صحی	0	1	2	3	4
4. وضعیت مکاتب	0	1	2	3	4
5. وضعیت آب آشامیدنی و سیستم آبیاری	0	1	2	3	4
6. وضعیت برق	0	1	2	3	4
7. موجودیت منابع تولیداتی (کود کیمیاوی، فروشنده های ادویه ضد حشرات و آفات)	0	1	2	3	4
8. دفتر یا اداره ترویج	0	1	2	3	4
9. دفتر یا اداره آبیاری	0	1	2	3	4
10. سهولت های عرضه خدمات کریدت	0	1	2	3	4
11. فرصت های مناسب برای فروش محصولات در خارج از قریه (خریداران، وسایط حمل و نقل)	0	1	2	3	4
12. وضعیت سرتاسری عرضه خدمات دولتی	0	1	2	3	4

مشخصات یا سابقه دهقان

سرانجام، ما در باره سابقه کاری و تجربه گذشته تان در زمینه سوال مینماییم. این معلومات و سایر معلومات بدست آمده از این سروی، فقط بقصد تحلیل و تجزیه احصایوی استفاده میشود و تمام معلومات محرم باقی میماند.

الف. عمر دهقان (که به این پرسش ها جواب میدهد)؟ _____ سال

ب. جنس دهقان (که به این پرسش ها جواب میدهد)؟ ***(جواب را حلقه نمایید)***
1. مذکر 2. مونث

ج. درجه تعلیم و یا تحصیل دهقان؟ ***(جواب را حلقه نمایید)***
1. بیسواد 2. تعلیم مدرسه ویا درس خانگی
3.مکتب ابتداییه 4. مکتب متوسطه
5. لیسه (صنف 12) 6. 14 پاس یاا دیلومه
7. درجه لیسانس

D. Farmer's current marital status? (*circle your answer*)
1. Single 2. Married
3. Divorced 4. Widowed

د. زبان مادری تان چه است؟ ***(یکی از زبان های ذیل را انتخاب نمایید)***
1. دری 2. پشتو 3. ترکمنی 4. ازبکی 5. کدام زبان دیگر: _____

ه. زراعت:
1. شغل اول (ابتدایی) دهقان مذکور میباشد 2. شغل دوم (ثانوی یا فرعی) دهقان مذکور میباشد

و. در صورت که دهقان مذکور شغل و یا پیشه دومی داشته باشد، لطفاً آنرا بنویسید: _____

ز. درآمد یا عایدات تان بطور اوسط از تمام منابع چقدر است:
1. _____ (به افغانی) 2. _____ در صد آن از زراعت بدست میاید

ح. چند نفر، بشمول خود دهقان، که در ذیل ذکر میگردد با خانواده دهقان زندگی میکند:
1. طبقه ذکور بالا تر از سن 16 ساله _____ نفر 2. طبقه ذکور کمتر از سن 16 ساله _____ نفر
3. طبقه اناث بالا تر از سن 16 ساله _____ نفر 4. طبقه اناث کمتر از سن 16 ساله _____ نفر

J. How many of the following individuals in the household, including the farmer, participate in farming?
a. Male/s More than 16 years _____ persons b. Male/s Less than 16 years _____ persons
c. Female/s More than 16 years _____ persons d. Female/s Less than 16 years _____ persons

ط. دهقان در مورد هزینه و فواید استفاده از روشها و تخنیک های جدید چه فکر میکند:

مصارف یا هزینه	پایین	متوسط	بالا	نمی دانم
1. استفاده و یا استعمال منابع تولیداتی (تخم بذری، کود کیمیاوی، دواپاشی)	1	2	3	0
2. وسایل و تجهیزات استفاده منابع تولیداتی	1	2	3	0
3. وقت	1	2	3	0
4. نیروی کاری	1	2	3	0
فواید				
5. افزایش اوسط محصولات و عایدات	1	2	3	0
6. کاهش خطر در محصولات	1	2	3	0
7. انتخاب تنوع	1	2	3	0
8. افزایش آگاهی و معلومات در مورد اداره و منجمت مزرعه	1	2	3	0
9. معیارات (استندرد) بهتر زندگی	1	2	3	0

Annex C

Survey Design/Schedules/Settlement Locations by Teams

فهرست سروی – زون **A** (کندز) – تیم 1

ولسوالیها: کندز، چهار دره، امام صاحب، خان آباد

اعضاء: م. ضیا، ضیاالدین، م. سرور

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
1	1	A	1	کندز	کندز		Omar Khel (4)	23.2815	68.9007	36.5812		Pulikheshtee	3.3535	Abdullah	20	1	21	19-11-05	- -
2	1	A	1	کندز	چهار دره		Omar Khel (3)	23.2815	68.89	36.6454		Gul Dean	4.3531	Abdul Rahman	20	1	21	20-11-05	- -
3	1	A	1	کندز	امام صاحب		Qerghez	24.8728	68.979	37.1786		Ismaielqashlaq	2.7668	A Hamid	20	1	21	21-11-05	- -
4	1	A	1	کندز	امام صاحب		Halqa Kol (2)	206.737	68.908	37.2308		Halqa Kol(1)	1.5927	Mohd Haneef	20	1	21	22-11-05	- -
ALT 1	1	A	1	کندز	چهار دره		Kharu Ti	66.199	68.8225	36.6893		Durarabbat	0.3807	Abdul Rahim	20	1	21		
ALT 2	1	A	1	کندز	چهار دره		Qara Yatim (2)	36.8082	68.8346	36.7111		Sedarak Near elctric	1.4404	Abdul Munaff	20	1	21		
1	2	A	1	کندز	امام صاحب		Ab Ferosh	24.1714	69.1045	37.092		Kaker	6.1352	Abdul Haliem	20	1	21	23-11-05	- -
2	2	A	1	کندز	امام صاحب		Aq Masjed (2)	206.737	68.908	37.2308		Halqa Kol(1)	5.1152	Mohd Haneef	20	1	21	24-11-05	- -
3	2	A	1	کندز	کندز		Karez Musa	8.9228	68.8796	36.7702		Nasierree	9.6892	Akhtar Mohd	20	1	21	26-11-05	- -
ALT 1	2	A	1	کندز	کندز		Char Qaban	6.3316	68.8796	36.7702		Nasierree	6.7421	Akhtar Mohd	20	1	21		
ALT 2	2	A	1	کندز	کندز		Quchchi	55.4477	68.8796	36.7702		Nasierree	5.8064	Akhtar Mohd	20	1	21		
1	3	A	1	کندز	خان آباد		Sang Gosh	10.0838	69.0939	36.6917		Saraki Now	10.3048	H Habib Rahman	20	1	21	27-11-05	- -
ALT 1	3	A	1	کندز	خان آباد		Larkhabi	16.1913	68.8796	36.7702		Nasierree	11.4268	Akhtar Mohd	20	1	21		
مجموع قریه جات که توسط تیم تحت پوشش قرار گرفته است						8								مجموع					

فهرست سروی – زون **B** (کابل) – تیم 2

ولسوالیها: گلدره، شکردره، ده سبز، پغمان
اعضاء: نثار احمد، م. رسول، م. صابر

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
1	1	B	2	کابل	گل دره		Esmullah	139.254	69.0993	34.8213		Deh-e Khwajahasan	1.6447	Fazl Haq	20	1	21	19-11-05	- -
2	1	B	2	کابل	شکردره		Qal'eh-ye Hazara	155.838	69.045	34.7288		Qala Afghan	0.0941	Mahamad Daud	20	1	21	20-11-05	- -
3	1	B	2	کابل	شکردره		Qal'eh-ye Naqim Saheb	185.456	69.0578	34.704		Kahja Azizuddin	4.4416	Dr. Ajoub	20	1	21	21-11-05	- -
ALT 1	1	B	2	کابل	شکردره		Arabha	155.838	69.0447	34.7369		Bedak	1.7063		20	1	21		
ALT 2	1	B	2	کابل	شکردره		Baylalkhel	13.0519	69.0685	34.6991		Fateh Khil	1.4277	Sharassool	20	1	21		
ALT 3	1	B	2	کابل	شکردره		Deh ya'qub	13.5108	69.0578	34.704		Kahja Azizuddin	2.9769	Dr. Ajoub	20	1	21		
1	2	B	2	کابل	شکردره		Kochkin	75.9406	69.0685	34.6991		Fateh Khil	6.7839	Sharassool	20	1	21	22-11-05	- -
2	2	B	2	کابل	شکردره		Ghaza (1)	75.9406	69.0578	34.704		Kahja Azizuddin	8.2503	Dr. Ajoub	20	1	21	23-11-05	- -
3	2	B	2	کابل	ده سبز		Alghoi	75.9406	69.108	34.7082		Qaleh Hassan	8.35	Gulam Gelan	20	1	21	24-11-05	- -
ALT 1	2	B	2	کابل	شکردره		Sherbazkhel	252.704	69.0416	34.724		Jalwani	7.5498	Mohamad Hakim	20	1	21		
ALT 2	2	B	2	کابل	ده سبز		Qal'eh-e-Miran	155.838	69.1592	34.7813		Masjid Khale Fassoy	8.1056	Dastaguir	20	1	21		
1	3	B	2	کابل	پغمان		Araban	815.604	69.0685	34.6991		Fateh Khil	10.9241	Sharassool	20	1	21	26-11-05	- -
2	3	B	2	کابل	ده سبز		Bandikhana	58.5194	69.1283	34.7238		Bala Aab	10.6959	Daud	20	1	21	27-11-05	- -
ALT 1	3	B	2	کابل	پغمان		Zarshakh	17.8561	69.0685	34.6991		Fateh Khil	13.3644	Sharassool	20	1	21		
ALT 2	3	B	2	کابل	پغمان		Isakhel	17.8561	69.0578	34.704		Kahja Azizuddin	14.7215	Dr. Ajoub	20	1	21		
مجموع قریه جات که توسط تیم تحت پوشش قرار گرفته است					8									مجموع					

فهرست سروی – زون **B** (کابل – پروان) – تیم 3

ولسوالیها: بگرام، قره باغ، سرخی پارسا، چاریکار، غوربند، کوه صافی، شیخ علی، شینواری

اعضاء: عبدالرقیب، میر عبدالقیوم، افضل سادات

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
1	1	B	3	پروان	بگرام		Qal'eh-ye Nasro	42.8746	69.2056	34.904		Qala Nasro	0.2472	Almas	20	1	21	19-11-05	- -
2	1	B	3	پروان	بگرام		Jwazsang	16.5599	69.1727	34.9313		Rabat	0.4644	Haji Gul Aghat	20	1	21	20-11-05	- -
3	1	B	3	پروان	بگرام		Laghmani Kuhna	32.755	69.226	34.942		Ghulam Ali	0.208	Haji Habibullah	20	1	21	21-11-05	- -
4	1	B	3	پروان	غوربند		Lich	210.072	68.74	35.01		Ghala Zahi	3.8503	Abdul Gha	20	1	21	22-11-05	- -
5	1	B	3	پروان	سرخی پارسا		Surkhi Parsa	290.574	68.6457	34.8941		Parsa	4.0534	Ghulm Sid	20	1	21	23-11-05	- -
6	1	B	3	پروان	چاریکار		Salamkhan	210.072	69.2087	34.9897		Qalacha	0.9951	Hadji Aghasherin	20	1	21	24-11-05	- -
7	1	B	3	پروان	سرخی پارسا		Lolanj	42.8746	68.6482	34.9221		Lolanj	0.1334	M.Awaz	20	1	21	26-11-05	- -
8	1	B	3	پروان	چاریکار		Dado	75.1636	69.2218	35.0557		Dadoo	0.6518	Gulagha	20	1	21	27-11-05	- -
9	1	B	3	پروان	چاریکار		Kotale Darrahe Kalan	75.1636	69.1894	35.0592		Totumdara-i-Sufla	4.5907	Jan Agha	20	1	21	28-11-05	- -
ALT 2	1	B	3	پروان	غوربند		Hayatkhel	16.5148	68.7975	34.9788		Fandaqistan	4.1869	Shirbad S	20	1	21		
ALT 3	1	B	3	پروان	چاریکار		Sufyane Baba	46.974	69.167	34.9807		Sofian Laghmani	0.7102	Said Amin	20	1	21		
ALT 4	1	B	3	پروان	غوربند		Porakal	24.4566	68.7975	34.9788		Fandaqistan	2.9986	Shirbad S	20	1	21		
ALT 6	1	B	3	پروان	غوربند		Qalacha-i-Shata	210.072	68.7798	34.9934		Andab	3.8503	Abdul Gha	20	1	21		
1	3	B	3	پروان	کوه صافی		Qalakhel	163.531	69.2148	34.8577		Qala Shahi	13.413	Noz Ali	20	1	21	29-11-05	- -
2	3	B	3	پروان	شیخ علی		Kajake Bala(Nazari)	216.928	68.4815	34.9304		Dandapanjan	11.6306	Malang	20	1	21	30-11-05	- -
3	3	B	3	پروان	سرخی پارسا		Kalan Baba	3.4141	68.6457	34.8941		Parsa	14.3967	Ghulm Sid	20	1	21	01-12-05	- -
ALT 1	3	B	3	پروان	شینواری		Darrahe Estama	210.072	69.1665	34.9879		Khodja Searan	10.2453	Abdul Vidud	20	1	21		
ALT 2	3	B	3	پروان	سرخی پارسا		Jami	38.7993	68.6457	34.8941		Parsa	12.6422	Ghulm Sid	20	1	21		
مجموع قریه جات که توسط تیم تحت پوشش قرار گرفته است				12										مجموع					

فهرست سروی – زون C (کاپیسا – پروان) – تیم 4

ولسوالیها: محمود راقی، جبل السراج، کوهستان، بگرام، چاریکار، سالنگ، کوه صافی

اعضاء: ا. غیاث، نجیب الله، سید جمال الدین

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
1	1	B	4	کاپیسا	محمود راقی		Khanan Khel	210.072	69.3313	34.9857		Chinzahi Sufibaba	3.756	Malek Zarbat	20	1	21	19-11-05	- -
2	1	B	4	پروان	جبل السراج		Sabzikhel	170.508	69.2398	35.1219		Modat Khail	4.3099	M.Sadiq	20	1	21	20-11-05	- -
3	1	B	4	پروان	جبل السراج		Gardana-i-Qala	170.508	69.2398	35.1219		Modat Khail	2.6604	M.Sadiq	20	1	21	21-11-05	- -
ALT 1	1	B	4	پروان	جبل السراج		Rasuldadkhel	75.1636	69.2405	35.1014		Talgar	4.1672	M.Asif	20	1	21		
1	2	B	4	پروان	بگرام		Doghabad	10.6153	69.3313	34.9857		Chinzahi Sufibaba	6.744	Malek Zarbat	20	1	21	22-11-05	- -
2	2	B	4	کاپیسا	کوهستان		Moradkhwaja	75.1636	69.2515	35.0338		Tughbirdi	6.1926	Mullah Ajan	20	1	21	23-11-05	- -
3	2	B	4	پروان	چاریکار		Jamalagha	75.1636	69.1894	35.0592		Totumdara-i-Sufla	9.1866	Jan Agha	20	1	21	24-11-05	- -
4	2	B	4	کاپیسا	کوهستان		Gul Bahar	170.508	69.2398	35.1219		Modat Khail	5.8328	M.Sadiq	20	1	21	26-11-05	- -
ALT 1	2	B	4	کاپیسا	کوهستان		Faqirkhankhel	75.1636	69.2515	35.0338		Tughbirdi	5.5515	Mullah Ajan	20	1	21		
ALT 3	2	B	4	پروان	سالنگ		Darrahe Horati	95.8016	69.2155	35.1222		Deh Bala	6.78294	M.Ibrahim	20	1	21		
1	3	B	4	پروان	سالنگ		Qalatak	43.468	69.2155	35.1222		Deh Bala	11.7596	M.Ibrahim	20	1	21	28-11-05	- -
2	3	B	4	پروان	کوه صافی		Miyana Qala	32.755	69.3313	34.9857		Chinzahi Sufibaba	10.1636	Malek Zarbat	20	1	21	29-11-05	- -
ALT 1	3	B	4	کاپیسا	کوهستان		Karezay	75.1636	69.3313	34.9857		Chinzahi Sufibaba	12.0002	Malek Zarbat	20	1	21		
مجموع قریه جات که توسط تیم تحت پوشش قرار گرفته است				10										مجموع					

فهرست سروی – زون C (ننگرهار) – تیم 5

ولسوالیها: بتی کوت، جلال آباد، کامه، رودات، پچیراگام، شیرزاد، کوز کنر، چپرهار

اعضاء: انجنیرظریف، همایون، حاجی لعل محمد

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده					
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید	
1	1	C	5	ننگرهار	جلال آباد		Rege Shahmardkhan	239.367	70.7584	34.3359		Jalalabad	1.7288	A. Rehman	20	1	21	19-11-05	-	-
2	1	C	5	ننگرهار	جلال آباد		Kakaran	44.7418	70.4773	34.4488		Abdyan	3.3878	Siada Jan	20	1	21	20-11-05	-	-
3	1	C	5	ننگرهار	کامه		Perzi	239.367	70.5871	34.4087		Shekhan	2.6637	A.Ruaf	20	1	21	21-11-05	-	-
ALT 1	1	C	5	ننگرهار	جلال آباد		Qal`eh-ye Merza	47.8213	70.3992	34.4263		Bukhtan	1.1228	Dawud	20	1	21			
1	2	C	5	ننگرهار	رودات		Sur Gog	263.376	70.5555	34.4156		De-ye Ghazi	7.2236	Sabaz Ali	20	1	21	22-11-05	-	-
2	2	C	5	ننگرهار	پچیراگام		Bandyan	38.8536	70.2343	34.2143		Landay	6.1918	M.Hussian	20	1	21	23-11-05	-	-
3	2	C	5	ننگرهار	پچیراگام		Mawra	31.7642	70.2343	34.2143		Landay	6.96441	M.Hussian	20	1	21	24-11-05	-	-
ALT 1	2	C	5	ننگرهار	رودات		Zarbacha	31.7642	70.7353	34.2515		See pai Daman	5.7403	Sahra Gul	20	1	21			
ALT 2	2	C	5	ننگرهار	کامه		Koti	285.621	70.5641	34.4415		Now Abad	6.039		20	1	21			
1	3	C	5	ننگرهار	شیرزاد		Balalkhel	31.7642	70.1568	34.2424		Kilaghu	10.374	Sharifullah	20	1	21	26-11-05	-	-
2	3	C	5	ننگرهار	کوز کنر		Myagan	17.8561	70.5641	34.4415		Now Abad	11.8869		20	1	21	27-11-05	-	-
3	3	C	5	ننگرهار	چپرهار		Sra Kala	33.9956	70.3982	34.4192		Bukhtan	13.688	Maleem Ishaq	20	1	21	28-11-05	-	-
ALT 1	3	C	5	ننگرهار	چپرهار		Halim Mama Kalay	347.121	70.2343	34.2143		Landay	12.6316	M.Hussian	20	1	21			
ALT 2	3	C	5	ننگرهار	شیرزاد		Sawatyan	33.9956	70.1568	34.2424		Kilaghu	13.3258	Sharifullah	20	1	21			
مجموع قریه جات که توسط تیم تحت پوشش قرار گرفته است				9										مجموع						

جدول سروی – زون D (غزنی) – تیم 6

ولسوالیها: غزنی، اندر، قره باغ، جاغوری

اعضاء: م. علی، عمرالدین، گلا جان

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
1	1	D	6	غزنی	غزنی		Godule Ahangaran	245.726	68.4154	33.5691		Qalai Akram	2.5685	Mohd Gul	20	1	21	19-11-05	- -
2	1	D	6	غزنی	اندر		Kharoti (1)	763.218	68.501	33.3188		La'li Wal	2.47423	H.Faizullah	20	1	21	20-11-05	- -
3	1	D	6	غزنی	اندر		Sarferaz Kala	177.161	68.5326	33.377		Khadukhail Sufla	2.93529	Fazluddin	20	1	21	21-11-05	- -
ALT 1	1	D	6	غزنی	قره باغ		Sar Sota	21.2678	68.0965	33.2367		Mirak	4.2451	M.Raza	20	1	21		
ALT 2	1	D	6	غزنی	جاغوری		Sange Surakh	53.3097	67.3756	33.0852		Sange Surakh	0.0346	Ali Madad	20	1	21		
1	2	D	6	غزنی	جاغوری		Sekecha	38.7832	67.4749	33.1314		Rayzgak	5.104	Jan Ali	20	1	21	22-11-05	- -
ALT 1	2	D	6	غزنی	قره باغ		Dolana	732.019	67.9654	33.2999		Esokhail	6.6076	H.Sayed Khan	20	1	21		
1	3	D	6	غزنی	قره باغ		Payendakhel	155.788	68.0546	33.1563		Khunyan	11.9885	Nazar Mohd	20	1	21	23-11-05	- -
ALT 1	3	D	6	غزنی	قره باغ		Qala-i-Ata Mohammad Khan	155.788	68.0546	33.1563		Khunyan	10.1704	Nazar Mohd	20	1	21		
مجموع قریه جات که توسط تیم تحت پوشش قرار گرفته است						5								مجموع					

فهرست سروی – زون E (هلمند) – تیم 7

ولسوالی: نهر سراج، لشکر گاه، گرمسیر، سنگین، موسی قلعه، کجکی، ناوه بارکزئی، نادعلی

اعضاء: م. غوث، سید شاه، تازه گل، م. شریف

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
1	1	E	7	هلمند	نهر سراج		Faqir Payan Kalay	135.638	64.5115	31.7683		Bazar	1.2907	Ghulam Ha	27	1	28	19-11-05	- -
2	1	E	7	هلمند	نهر سراج		Amin Kalay	268.881	64.3817	31.6997		Esazai	1.3062	Lukman	27	1	28	20-11-05	- -
3	1	E	7	هلمند	نهر سراج		Sharqi Mohammad Omar Kalay	48.4825	64.4125	31.7252		Babaji RahimKandaharil	2.8895	Hayatullah	27	1	28	21-11-05	- -
4	1	E	7	هلمند	نهر سراج		Charkhandaz	95.7956	64.5533	31.7975		Abazan	0.3613	Toor Jan	27	1	28	22-11-05	- -
5	1	E	7	هلمند	نهر سراج		Tajdare Wali	95.7956	64.5701	31.8064		TaKandahartain	0.8002	Gulham Ali	27	1	28	23-11-05	- -
6	1	E	7	هلمند	نهر سراج		Girishk	95.7956	64.571	31.8105		Noorzai	1.0574	Nasim	27	1	28	24-11-05	- -
7	1	E	7	هلمند	نهر سراج		Langar Shah	95.7956	64.571	31.8105		Noorzai	0.2573	Nasim	27	1	28	26-11-05	- -
8	1	E	7	هلمند	لشکر گاه		Charbagh (Chaharbagh)	126.243	64.3731	31.6965		Loh Bagh	0.6023	Said Jan	27	1	28	27-11-05	- -
9	1	E	7	هلمند	نهر سراج		De Table Tak	126.243	64.6637	31.668		Ghonday Kalay	4.0706	Zolfiqar	27	1	28	23-11-05	- -
10	1	E	7	هلمند	نهر سراج		Samazi	135.638	64.487	31.7534		Malgir	1.4759	Fazal Rabi	27	1	28	24-11-05	- -
11	1	E	7	هلمند	نهر سراج		Akhund	135.638	64.4961	31.7675		Malgir	1.0139	Hamid	27	1	28	26-11-05	- -
ALT 1	1	E	7	هلمند	نهر سراج		Hosayni Kala	218.63	64.5191	31.6901		Barakzai	3.2276	Sardar	27	1	28		
ALT 2	1	E	7	هلمند	نهر سراج		Bano Kalay	316.874	64.808	31.921		Noorzai	1.1353	Juma Kandaharan	27	1	28		
ALT 3	1	E	7	هلمند	گرمسیر		Haji Sayed Omar Khan	66.7086	64.1925	31.1145		Hazar Juft Sofla	0.4557	Nazar Mod	27	1	28		
ALT 4	1	E	7	هلمند	نهر سراج		Haji Faydzmohammadkhan Kalay	135.638	64.5115	31.7683		Bazar	0.7677	Ghulam Ha	27	1	28		
ALT 5	1	E	7	هلمند	گرمسیر		Haji Nematullah Kalay	66.7086	64.1717	31.0649		Darwaishan	2.2568	M. Nader	27	1	28		
ALT 6	1	E	7	هلمند	گرمسیر		Mullayano Kor (1)	66.7086	64.1889	31.1002		Kupak	1.86	H A Wahid	27	1	28		
ALT 7	1	E	7	هلمند	گرمسیر		Rustamkhan Kalay	66.7086	64.1662	31.1585		Shamalan	1.2255	Lal Mohd	27	1	28		
ALT 8	1	E	7	هلمند	نهر سراج		Alokozi	268.881	64.6637	31.668		Ghonday Kalay	3.9775	Zolfiqar	27	1	28		
ALT 9	1	E	7	هلمند	نهر سراج		Abbazha-i-Helmand	95.7956	64.5592	31.7847		Ab Bazan	0.6764	Mir Ahmad	27	1	28		
ALT 10	1	E	7	هلمند	نهر سراج		Adinzai	95.7956	64.6504	31.8571		M. Zai	1.7082	A. Ahad	27	1	28		
ALT 11	1	E	7	هلمند	سنگین		Maydanay	295.125	64.9937	32.2064		Zehdanan	2.6216	Bismilah	27	1	28		
ALT 12	1	E	7	هلمند	موسی قلعه		Dawuzay	50.2742	64.6775	32.2443		Jahazi	2.134	Ghulam Yahya	27	1	28		

فهرست سروی – زون E (هلمند) – تیم 7 (به ادامه ورق قبلی)

ولسوالی: نهر سراج، لشکر گاه، گرمسیر، سنگین، موسی قلعه، کجکی، ناوه بارکزئی، نادعلی

اعضاء: م. غوث، سید شاه، تازه گل، م. شریف

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
ALT 13	1	E	7	هلمند	کجکی		Pa'in Kala	50.2742	65.0429	32.2692		Loover کجکی	1.8302	Noor Mohd	27	1	28		
ALT 14	1	E	7	هلمند	موسی قلعه		De Hazarmishi Karez	24.0444	64.8313	32.3755		Tabib Kariz	1.127	A. Rauf	27	1	28		
ALT 15	1	E	7	هلمند	ناوه بارکزئی		Zaher Kalay	86.7113	64.2699	31.3245		Hazar Asp	1.1265	Mohd Rasool	27	1	28		
ALT 16	1	E	7	هلمند	ناوه بارکزئی		Haji Bahawuddin	86.7113	64.1437	31.4721		Dahna 66	0.0395	Mohd Naim	27	1	28		
ALT 17	1	E	7	هلمند	ناوه بارکزئی		Asekzaio Block	86.7113	64.0962	31.4942		Asekzaio Block	0.0484	Zarin	27	1	28		
ALT 18	1	E	7	هلمند	ناوه بارکزئی		Sayedan	86.7113	64.3276	31.5179		Ainak	0.648	Tooryali	27	1	28		
ALT 19	1	E	7	هلمند	لشکر گاه		Mokhattar Kala	125.657	64.5052	31.6213		Mokhattar Kala	0.149	Mod Azam	27	1	28		
ALT 20	1	E	7	هلمند	ناد علی		Zarghun Kalay	218.63	64.2773	31.6644		Nad Ali	0.0222	Mirwais	27	1	28		
ALT 21	1	E	7	هلمند	ناد علی		Chahe Mirza	177.011	64.2264	31.6839		Chahe Mirza	0.0784	Haji Ghow	27	1	28		
ALT 22	1	E	7	هلمند	ناد علی		Arab Kalay	124.97	64.347	31.7331		31 Gharbi	1.6521	H Shah Mohd	27	1	28		
مجموع قریه جات که توسط تیم تحت پوشش قرار گرفته است						12								مجموع					

فهرست سروی – زونE (هلمند) – تیم 8

ولسوالی: گرمسیر، ناوه بارکزئی، ریگ، نهر سراج

اعضاء: داود شاه، م. داود، همیشه گل، عطاءالرحمن

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر						نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید	
1	1	E	8	هلمند	گرمسیر		Naqilin Uzbak	28.5477	64.1543	30.9329		Kashti	2.4992	M Ali Kandaharan	27	1	28	19-11-05	-	-
2	1	E	8	هلمند	گرمسیر		Haji Faqir Mohammad	66.7086	64.1772	30.9853		Kuchnay Darweyshan	3.8934	Gul Ahmad	27	1	28	20-11-05	-	-
3	1	E	8	هلمند	گرمسیر		Gholam Haydar Kor	66.7086	64.1717	31.0649		Darwaishan	4.1914	M. Nader	27	1	28	21-11-05	-	-
4	1	E	8	هلمند	گرمسیر		Abdullahjan kaly	66.7086	64.1925	31.1145		Hazar Juft Sofla	1.0009	Nazar Mod	27	1	28	22-11-05	-	-
5	1	E	8	هلمند	گرمسیر		Qurya	66.7086	64.1952	31.1291		Hazar Juft	0.4795	Shayasta Gul	27	1	28	23-11-05	-	-
6	1	E	8	هلمند	گرمسیر		Mohammad Usman Kalay	66.7086	64.2008	31.138		Kandaharari	0.6424	M Daud	27	1	28	24-11-05	-	-
7	1	E	8	هلمند	گرمسیر		Shamalan	66.7086	64.1662	31.1585		Shamalan	1.9193	Lal Mohd	27	1	28	26-11-05	-	-
8	1	E	8	هلمند	گرمسیر		Hajitori Kalay	54.8194	64.2051	31.2382		SurKandahard oz	0.3075	A Kandaharatar M	27	1	28	27-11-05	-	-
9	1	E	8	هلمند	ناوه بارکزئی		Sayedmoham madkhan Kor	86.7113	64.2699	31.3245		Hazar Asp	2.632	Mohd Rasool	27	1	28	28-11-05	-	-
ALT 1	1	E	8	هلمند	گرمسیر		Mohammad Akbarkhan Kalay	13.6633	64.1214	30.7597		Parchawa	3.899	M Jan	27	1	28			
ALT 2	1	E	8	هلمند	ریگ		Qalandarza'i	10.6674	64.1212	30.8157		Laki	2.5362	Ghulam M	27	1	28			
ALT 3	1	E	8	هلمند	ناوه بارکزئی		Dastagirkhan Kalay	86.7113	64.2699	31.3245		Hazar Asp	2.6003	Mohd Rasool	27	1	28			
ALT 4	1	E	8	هلمند	گرمسیر		Haji Rawo Khan (1)	39.9464	64.1772	30.9853		Kuchnay Darweyshan	2.4265	Gul Ahmad	27	1	28			
ALT 5	1	E	8	هلمند	گرمسیر		Gholam Mohammad Kor	66.7086	64.1717	31.0649		Darwaishan	1.4241	M. Nader	27	1	28			
ALT 6	1	E	8	هلمند	گرمسیر		Kupak (Abdul Wahed Kalay)	66.7086	64.1889	31.1002		Kupak	1.6527	H A Wahid	27	1	28			
ALT 7	1	E	8	هلمند	گرمسیر		Hazar Joft	66.7086	64.1971	31.1188		Surkela Hazarjuft	0.0613	Mohd	27	1	28			
ALT 8	1	E	8	هلمند	گرمسیر		Hashemkhan Kalay	191.093	64.1753	31.1983		Surkhudoz	0.4694	M. Ayub	27	1	28			
ALT 9	1	E	8	هلمند	گرمسیر		Khanmohamm ad Kalay	84.6058	64.2235	31.257		Bagh Rabat	1.1126	Sultan mohd	27	1	28			
ALT 11	1	E	8	هلمند	گرمسیر		Muqiam Khan	53.6973	64.1557	30.9173		Mainpushta	1.4027	Adam	27	1	28			

فهرست سروی – زون E (هلمند) – تیم 8 (به ادامه ورق قبلی)

ولسوالی: گرمسیر، ناوه بارکزئی، ریگ، نهر سراج

اعضاء: داود شاه، م. داود، همیشه گل، عطاءالرحمن

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
ALT 14	1	E	8	هلمند	گرمسیر		Naqilin	13.6633	64.1214	30.7597		Lakai	4.3954	Mohd Dawood	27	1	28		
ALT 15	1	E	8	هلمند	گرمسیر		Gholam Nabi Kalay	13.6633	64.1214	30.7597		Lakai	3.1477	Mohd Dawood	27	1	28		
ALT 16	1	E	8	هلمند	گرمسیر		Baqi Khan	13.6633	64.1214	30.7597		Parchawa	4.0033	M Jan	27	1	28		
ALT 18	1	E	8	هلمند	ریگ		Karam Za'i Kalay	6.1839	64.1278	30.83		Laki	0.258	H. Habibulah	27	1	28		
1	2	E	8	هلمند	گرمسیر		Yar Mohammad Khan	13.6633	64.1214	30.7597		Parchawa	7.1191	M Jan	27	1	28	29-11-05	- -
2	2	E	8	هلمند	نهر سراج		Balochan	135.638	64.7113	31.7521		Zomboly	9.8088	Naimat	27	1	28	30-11-05	
3	2	E	8	هلمند	گرمسیر		Sangin Khan	66.7086	64.1717	31.0649		Darwaishan	5.5818	M. Nader	27	1	28	01-12-05	- -
ALT 1	2	E	8	هلمند	نهر سراج		Gawband	124.97	64.6637	31.668		Ghonday Kalay	6.9828	Zolfiqar	27	1	28		
ALT 3	2	E	8	هلمند	نهر سراج		Mulla Gulmohammd Shakh	135.638	64.6182	31.8048		Noorzai	8.3515	Lalak	27	1	28		
ALT 4	2	E	8	هلمند	نهر سراج		Janmohammad Shakh	15.7158	64.6637	31.668		Ghonday Kalay	8.9625	Zolfiqar	27	1	28		
ALT 6	2	E	8	هلمند	ریگ		Shah Vali Khan Kalay	13.6633	64.1214	30.7597		Lakai	6.2476	Mohd Dawood	27	1	28		
مجموع قریه جات که توسط تیم تحت پوشش قرار گرفته است						12								مجموع					

فهرست سروی – زون E (هلمند) – تیم 9

ولسوالیها: کجکی، سنگین، نهر سراج، موسی قلعه، لشکر گاه

اعضاء: بهاالدین، حاجی کریم الله، محمد قاسم، بریالی

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
1	1	E	9	هلمند	کجکي		Syaghul	45.6405	65.1099	32.3846		Karez Now	1.4457	Hajii Abdullah	27	1	28	19-11-05	- -
2	1	E	9	هلمند	سن گین		Surkhabad	98.6412	64.863	32.0127		Kandaharakesh	3.8707	Abdullah	27	1	28	20-11-05	- -
3	1	E	9	هلمند	سن گین		Paygharakay	352.449	64.8517	32.0852		Toughi	1.3147	Sadullah	27	1	28	21-11-05	- -
4	1	E	9	هلمند	سن گین		Sargharakay	193.786	64.8788	32.09		Chakhi Fasal	0.7056	Zinullah	27	1	28	22-11-05	- -
ALT 1	1	E	9	هلمند	کجکي		Mazdurak (1)	50.604	65.075	32.3381		Bagal Kandaharail	1.3492	Abdul Ghani	27	1	28		
ALT 2	1	E	9	هلمند	کجکي		Mirzi	45.6405	65.1099	32.3846		Karez Now	1.7422	Hajii Abdullah	27	1	28		
ALT 3	1	E	9	هلمند	کجکي		Gandumreze Ulya	45.6405	65.0509	32.3869		Gandomriz	0.3807	Doust Mohd	27	1	28		
ALT 4	1	E	9	هلمند	کجکي		Kareze Naw Gharbi	45.6405	65.1281	32.4064		Nichea	1.3235	H. Ghulam dastagir	27	1	28		
ALT 5	1	E	9	هلمند	سن گین		Tughay	193.786	64.8535	32.0891		Toughy	0.7659	A. Wahid	27	1	28		
ALT 6	1	E	9	هلمند	سن گین		Kotayzay	79.103	64.9336	32.1261		Thesroughulbah	0.8758	Dad Mohd	27	1	28		
ALT 7	1	E	9	هلمند	سن گین		Garezi	176.391	64.9704	32.1685		Kandaharanan	2.8394	A. Qader	27	1	28		
ALT 8	1	E	9	هلمند	کجکي		Barikjo	47.2099	65.075	32.3381		Bagal Kandaharail	1.0165	Abdul Ghani	27	1	28		
1	2	E	9	هلمند	کجکي		Sarginak	50.604	65.1336	32.3862		Karez Now	7.7202	A. Aziz	27	1	28	23-11-05	- -
2	2	E	9	هلمند	کجکي		Adina	45.6405	65.1336	32.3862		Karez Now	6.8263	A. Aziz	27	1	28	24-11-05	- -
3	2	E	9	هلمند	کجکي		Shah Karez	50.604	64.8551	32.4023		Jou Draz	5.9772	A Halim	27	1	28	26-11-05	- -
4	2	E	9	هلمند	سن گین		Awghani	700.517	64.8677	32.0132		Kandaharakish Bouri	6.3955	H. Abdullah	27	1	28	27-11-05	- -
5	2	E	9	هلمند	سن گین		Awkhana	65.1413	64.9055	32.03		Boury	8.0954	Jan Agha	27	1	28	28-11-05	- -
6	2	E	9	هلمند	سن گین		Wushtan (1)	22.2543	64.9055	32.03		Boury	8.7952	Jan Agha	27	1	28	29-11-05	- -
7	2	E	9	هلمند	سن گین		De Kanate Latif(Kanate Saydal)	193.786	64.9756	32.1457		Cangain kariz	7.3722	Agha Lala	27	1	28	30-11-05	- -
ALT 1	2	E	9	هلمند	نهر سراج		De Daraban Sar	48.4825	64.5939	31.7394		Saidan	7.8498	Ali Shah	27	1	28		
ALT 2	2	E	9	هلمند	کجکي		Benavsh	4.7892	64.9102	32.2741		Malakan	5.9772	Esa Mohd	27	1	28		
ALT 3	2	E	9	هلمند	کجکي		Choghak	489.497	64.9756	32.1457		Cangain kariz	7.982	Agha Lala	27	1	28		
ALT 4	2	E	9	هلمند	کجکي		Bolukchaw	45.6405	65.1336	32.3862		Karez Now	6.7028	A. Aziz	27	1	28		
ALT 5	2	E	9	هلمند	کجکي		Kokachel	140.232	65.0429	32.2692		Loover Kajaki	5.3747	Noor Mohd	27	1	28		

فهرست سروی – زون E (هلمند) – تیم 9 (به ادامه ورقبلی)

ولسوالیها: کجکی، سنگین، نهر سراج، موسی قلعه، لشکر گاه

اعضاء: بهاالدین، حاجی کریم الله، محمد قاسم، بریالی

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
ALT 8	2	E	9	هلمند	نهر سراج		Naser Kalay	135.638	64.7041	31.8401		Zomboly	9.0103	Naimat	27	1	28		
ALT 10	2	E	9	هلمند	سنگین		Janubi Tutak	37.3358	64.9055	32.03		Boury	6.2235	Jan Agha	27	1	28		
ALT 12	2	E	9	هلمند	کجکي		Shadika (2)	50.604	65.1336	32.3862		Karez Now	5.6492	A. Aziz	27	1	28		
ALT 13	2	E	9	هلمند	نهر سراج		Qaleh-ye Gaz	374.779	64.8203	32.0453		Zengel	5.7073	H Heider	27	1	28		
ALT 14	2	E	9	هلمند	سنگین		Syahmanzar	430.835	64.9756	32.1457		Cangain kariz	5.2891	Agha Lala	27	1	28		
1	3	E	9	هلمند	سنگین		Nazir Karez	45.4366	64.9055	32.03		Boury	10.2243	Jan Agha	27	1	28	01-12-05	- -
2	3	E	9	هلمند	سنگین		Hasanabad	100.804	64.9756	32.1457		Cangain kariz	14.7515	Agha Lala	27	1	28	03-12-05	- -
ALT 1	3	E	9	هلمند	موسي قلعه		Regay (2)	176.391	64.8533	32.0892		Toughi	10.9047	A. Ghafar	27	1	28		
ALT 2	3	E	9	هلمند	لشکرگاه		Khakrezwal	401.657	64.6637	31.668		Ghonday Kalay	12.9918	Zolfiqar	27	1	28		
مجموع قریه جات که توسط تیم تحت پوشش قرار گرفته است						13								مجموع					

فهرست سروی – زون E (هلمند) – تیم 10

ولسوالیها: موسی قلعه، نو زاد، واشر، سنگین

اعضاء: عبدالرزاق، م. صادق، عبدالرازق، فضل الرحمن

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
1	1	E	10	هلمند	موسي قلعه		Kherwaray	89.6618	64.698	32.2263		Landi Nawh	4.6052	H Raz M	27	1	28	19-11-05	- -
2	1	E	10	هلمند	موسي قلعه		Kashtta Jeljay	55.189	64.8241	32.2983		Kariz	4.8397	M. Qasim	27	1	28	20-11-05	- -
3	1	E	10	هلمند	موسي قلعه		Deh Zuhre Ulya	50.604	64.7262	32.3372		Dehzor	1.9212	A Ghafar	27	1	28	21-11-05	- -
4	1	E	10	هلمند	موسي قلعه		Qarya-i-Kac Sharbat	45.6405	64.7515	32.4214		Toughi	0.3549	M Wali	27	1	28	22-11-05	- -
5	1	E	10	هلمند	موسي قلعه		Dabak	50.2742	64.6775	32.2443		Jahazi	0.9338	Ghulam Yahya	27	1	28	23-11-05	- -
6	1	E	10	هلمند	نوزاد		Changolak	45.6405	64.4933	32.4		Dehblouch	2.1097	M. Naim	27	1	28	24-11-05	- -
ALT 1	1	E	10	هلمند	موسي قلعه		Deh Ghawchak	36.3875	64.7969	32.2796		Itinchi	0.4694	A. Ghafar	27	1	28		
ALT 2	1	E	10	هلمند	موسي قلعه		Zulmabad	50.2742	64.7969	32.2796		Itinchi	3.3165	A. Ghafar	27	1	28		
ALT 4	1	E	10	هلمند	موسي قلعه		Shir Ghazay	50.2742	64.6935	32.2327		Landi Nawh	0.414	H Ahemedullah	27	1	28		
ALT 5	1	E	10	هلمند	سن‌گین		Zard Regay	352.449	64.9055	32.03		Boury	4.017	Jan Agha	27	1	28		
ALT 6	1	E	10	هلمند	سن‌گین		Nokorzay	1976.15	64.9325	32.131		Serwan Qalah	0.5805	M . Nabi	27	1	28		
ALT 8	1	E	10	هلمند	موسي قلعه		Zobayr	89.6618	64.9102	32.2741		Malakan	4.038	Esa Mohd	27	1	28		
ALT 10	1	E	10	هلمند	موسي قلعه		Qarya-i-Cena	22.1769	64.7746	32.3451		YaKandahara Kandaharak	0.489	Zinal Aba-din	27	1	28		
ALT 11	1	E	10	هلمند	موسي قلعه		Qarya-i-Kunjak	50.604	64.7787	32.3544		Chinah	1.3685	Ghulam Ali	27	1	28		
ALT 12	1	E	10	هلمند	نوزاد		Da`ud Zai	23.9389	64.4425	32.4294		ShaKandaharzia	3.365	A. Ahad	27	1	28		
1	2	E	10	هلمند	موسي قلعه		Kareze Naw	95.6721	64.8241	32.2983		Kariz	5.76	M. Qasim	27	1	28	26-11-05	- -
2	2	E	10	هلمند	نوزاد		Anarak	193.786	64.6754	32.1501		Anzar Shali	9.3551	A. Ahad	27	1	28	27-11-05	- -
3	2	E	10	هلمند	نوزاد		Bar Nawzade Sarqi	27.7453	64.4425	32.4294		ShaKandaharzia	8.794	A. Ahad	27	1	28	28-11-05	- -
4	2	E	10	هلمند	نوزاد		Ulghur	352.449	64.6754	32.1501		Anzar Shali	9.0669	A. Ahad	27	1	28	29-11-05	- -

فهرست سروی – زون E (هلمند) – تیم 10 (به ادامه ورق قبلی)

ولسوالیها: موسی قلعه، نو زاد، واشر، سنگین

اعضاء: عبدالرزاق، م. صادق، عبدالرازق، فضل الرحمن

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
5	2	E	10		نوزاد		Kenjak-e 'Olya	117.177	64.4425	32.4294		ShaKandaharzia	9.8066	A. Ahad	27	1	28	30-11-05	- -
ALT 1	2	E	10	هلمند	نوزاد		Barghana	193.786	64.6754	32.1501		Anzar Shali	5.8725	A. Ahad	27	1	28		
ALT 2	2	E	10	هلمند	موسي قلعه		Cholawyan	49.1459	64.832	32.2787		Sarhand	5.5733	H Abdullah Kandaharan	27	1	28		
ALT 3	2	E	10	هلمند	نوزاد		Shekh'Ali	193.786	64.6294	32.1812		Shrequalla	9.6423	Fida M	27	1	28		
ALT 4	2	E	10	هلمند	موسي قلعه		Bedak	193.88	64.6808	32.1516		Anzer Shali	6.9484	H. A. Baqi	27	1	28		
ALT 5	2	E	10	هلمند	موسي قلعه		Sultan Robat	35.454	64.6808	32.1516		Anzer Shali	7.2192	H. A. Baqi	27	1	28		
ALT 6	2	E	10	هلمند	موسي قلعه		Sandala	295.125	64.832	32.2787		Sarhand	5.9236	H Abdullah Kandaharan	27	1	28		
ALT 8	2	E	10	هلمند	نوزاد		Loy Khanjak	430.835	64.5834	32.196		Mishmust	7.7742	Mohammad	27	1	28		
ALT 9	2	E	10	هلمند	نوزاد		Qesm Abad	489.497	64.6754	32.1501		Anzar Shali	6.35	A. Ahad	27	1	28		
ALT 10	2	E	10	هلمند	نوزاد		Chakaw	193.786	64.6754	32.1501		Anzar Shali	8.5672	A. Ahad	27	1	28		
1	3	E	10	هلمند	واشير		Lapatu	50.2742	64.5404	32.1979		Anzer Shali	14.9087	Hazrat Mohd	27	1	28	01-12-05	- -
2	3	E	10	هلمند	نوزاد		Karez Musa	193.786	64.6754	32.1501		Anzar Shali	10.6358	A. Ahad	27	1	28	03-12-05	- -
ALT 1	3	E	10	هلمند	نوزاد		Razdane Ulya	50.604	64.4424	32.4293		ShaKandaharzia	10.3308	A. wadod	27	1	28		
ALT 2	3	E	10	هلمند	واشير		Karwangah	374.779	64.1455	31.9249		Hatam Darab	13.0942	H Mohd	27	1	28		
ALT 3	3	E	10	هلمند	نوزاد		Morad Ali	352.449	64.6754	32.1501		Anzar Shali	11.0419	A. Ahad	27	1	28		
ALT 4	3	E	10	هلمند	نوزاد		Baghak	103.838	64.5404	32.1979		Anzer Shali	12.1527	Hazrat Mohd	27	1	28		
مجموع قریه جات که توسط تیم تحت پوشش قرار گرفته است					13									مجموع					

فهرست سروی – زون E (کندهار) – تیم 11

ولسوالیها: کندهار، دامان، پنج وائی

اعضاء: نجیب الله، بریالی

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
1	1	E	11	کندهار	کندهار		Sahebdad Ghunday	190.025	65.6389	31.6389		bebe hawa Qalacha	2.5429	Mohd Gul	13	1	14	19-11-05	- -
2	1	E	11	کندهار	کندهار		Mohammad Rasulkhan Kalay	401.657	65.7976	31.5232		Akhondzada Kalacha	3.4419	Abdul Qadar	13	1	14	20-11-05	- -
3	1	E	11	کندهار	کندهار		Karz	181.761	65.7046	31.5637		Qasam kalay	2.1576	Mera Jan	13	1	14	21-11-05	- -
4	1	E	11	کندهار	کندهار		Kakaro Goshkhana	181.761	65.7046	31.5637		Qasam kalay	3.3391	Mera Jan	13	1	14	22-11-05	- -
5	1	E	11	کندهار	کندهار		Regi	79.3087	65.7046	31.5637		Qasam kalay	3.9417	Mera Jan	13	1	14	23-11-05	- -
ALT 1	1	E	11	کندهار	کندهار		Chawnay	190.025	65.6389	31.6389		bebe hawa Qalacha	4.4205	Mohd Gul	13	1	14		
ALT 3	1	E	11	کندهار	کندهار		Monar	181.761	65.7046	31.5637		Qasam kalay	3.0095	Mera Jan	13	1	14		
1	2	E	11	کندهار	کندهار		Haji Qayum Kala	135.638	65.7306	31.7476		Maranjan	9.1621	Abdul Qahir	13	1	14	24-11-05	- -
2	2	E	11	کندهار	کندهار		Bambulai	86.7113	65.5174	31.4394		Regwa	7.8269	Ehsanullah	13	1	14	26-11-05	- -
3	2	E	11	کندهار	کندهار		Mar'ruf Kariz	86.7113	65.5174	31.4394		Regwa	8.084	Ehsanullah	13	1	14	27-11-05	- -
4	2	E	11	کندهار	کندهار		Belanday	86.7113	65.5662	31.5701		Saleyan	5.8026	Haji Hamid gul	13	1	14	28-11-05	- -
ALT 1	2	E	11	کندهار	کندهار		Walakan	181.761	65.7046	31.5637		Qasam kalay	6.367	Mera Jan	13	1	14		
ALT 2	2	E	11	کندهار	کندهار		Rumbasi	86.7113	65.7046	31.5637		Qasam kalay	7.1533	Mera Jan	13	1	14		
ALT 3	2	E	11	کندهار	کندهار		Haji Razmohammad Kalacha	181.761	65.7046	31.5637		Qasam kalay	3.3461	Mera Jan	13	1	14		
ALT 4	2	E	11	کندهار	کندهار		Naseran	79.3087	65.7046	31.5637		Qasam kalay	4.7064	Mera Jan	13	1	14		
ALT 5	2	E	11	کندهار	کندهار		Kokaran	162.12	65.5889	31.6371		bebe hawa Qalacha	2.1257	Ali wola	13	1	14		
ALT 6	2	E	11	کندهار	کندهار		Bala Deh(Kohe Negar Deh)	190.025	65.6389	31.6389		bebe hawa Qalacha	2.5429	Mohd Gul	13	1	14		
ALT 8	2	E	11	کندهار	پنجوایي		Machu	79.3087	65.5039	31.5295		Lower demrasi	6.3932	Niaz Mohd	13	1	14		
مجموع قریه جات که توسط تیم تحت پوشش قرار گرفته است				9										مجموع					

فهرست سروی – زون E (کندهار) – تیم 12

ولسوالیها: پنج وائی

اعضاء: عبدالواحد، اسدالله

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
1	1	E	12	کندهار	پنجوایي		Kakaran (1)	86.7113	65.3247	31.4722		Tolokan	2.1325	Salo Kandaharan	13	1	14	19-11-05	- -
2	1	E	12	کندهار	پنجوایي		Gholamuddin khan	50.0449	65.3622	31.4996		Zangi Abad	2.1861	Ahmad Zia	13	1	14	20-11-05	- -
3	1	E	12	کندهار	پنجوایي		Regay	86.7113	65.4425	31.5143		Da shalo Kandaharono kalay	3.0922	Abdul Rauf	13	1	14	21-11-05	- -
4	1	E	12	کندهار	پنجوایي		Musa Kala	79.3087	65.4425	31.5143		Panjwai center	1.6095	Abdul Qadir	13	1	14	22-11-05	- -
5	1	E	12	کندهار	پنجوایي		Hajiquddus	79.3087	65.4425	31.5143		Panjwai center	1.399	Abdul Qadir	13	1	14	23-11-05	- -
6	1	E	12	کندهار	پنجوایي		Musakhan	86.7113	65.4193	31.5171		Sapidrawan Dabac	1.6547	Sayed Ali	13	1	14	24-11-05	- -
7	1	E	12	کندهار	پنجوایي		Paye Moluk	42.6417	65.4193	31.5171		Dabak	1.8622	Sayed Ali	13	1	14	26-11-05	- -
8	1	E	12	کندهار	پنجوایي		Haji Besmellah	181.761	65.4578	31.5519		Panjwai center	2.5646	Haji Abdul Hakim Agha	13	1	14	27-11-05	- -
9	1	E	12	کندهار	پنجوایي		Sa'dullahkhan	86.7113	65.3459	31.5389		Sangesar panezai	1.2173	Haji Allah Dad	13	1	14	28-11-05	- -
10	1	E	12	کندهار	پنجوایي		Burmohammad	181.761	65.3809	31.5708		Pasaw	3.3345	Mohd Sarwar	13	1	14	29-11-05	- -
ALT 1	1	E	12	کندهار	پنجوایي		Zangabad (1)	86.7113	65.3622	31.4996		Zangi Abad	3.5157	Ahmad Zia	13	1	14		
ALT 2	1	E	12	کندهار	پنجوایي		Haji Baydullah(Obaydllah)	401.657	65.4518	31.5156		Haji Agha Lalai	0.2839	Mohd Akbar	13	1	14		
ALT 3	1	E	12	کندهار	پنجوایي		Haji Mohd Ewadz	113.808	65.4193	31.5171		Sapid Rawan	2.3156	Wakil Ahmad	13	1	14		
ALT 4	1	E	12	کندهار	پنجوایي		Dabak	401.657	65.4193	31.5171		Dabak	0.7848	Sayed Ali	13	1	14		
ALT 5	1	E	12	کندهار	پنجوایي		Bayanzi	181.761	65.4578	31.5519		Panjwai center	1.7638	Haji Abdul Hakim Agha	13	1	14		
ALT 6	1	E	12	کندهار	پنجوایي		Mahajerin	95.8637	65.3087	31.5325		Sangisar	0.7578	Merhamza	13	1	14		
ALT 7	1	E	12	کندهار	پنجوایي		Faydzullah Khan	181.761	65.3809	31.5708		Pasaw	2.8588	Mohd Sarwar	13	1	14		
ALT 8	1	E	12	کندهار	پنجوایي		Machu	86.7113	65.5174	31.4394		Regwa	4.3382	Ehsanullah	13	1	14		
ALT 9	1	E	12	کندهار	پنجوایي		Molla Dust (2)	86.7113	65.5174	31.4394		Regwa	1.6357	Ehsanullah	13	1	14		
ALT 10	1	E	12	کندهار	پنجوایي		Regwa'i Sufla	86.7113	65.5174	31.4394		Regwa	0.5821	Ehsanullah	13	1	14		
ALT 11	1	E	12	کندهار	پنجوایي		Zangabad (2)	86.7113	65.3454	31.449		Talokan koshak	2.6615	Haji Hayat	13	1	14		
ALT 12	1	E	12	کندهار	پنجوایي		Regwa'i Ulya	86.7113	65.5121	31.4514		Regwa	0.5115	H.abdul qayum	13	1	14		
ALT 13	1	E	12	کندهار	پنجوایي		Khenjakak	86.7113	65.5113	31.4582		Regwa	1.6571	Kandaharan Mohd	13	1	14		

فهرست سروی – زون E (هلمند) – تیم 12 (به ادامه ورق قبلی)

ولسوالیها: پنج وائی

اعضاء: عبدالواحد، اسدالله

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
ALT 14	1	E	12	کندهار	پنجوایي		Habibullah	86.7113	65.3455	31.4829		Talokan	1.63	Haji Hayat khan	13	1	14		
ALT 16	1	E	12	کندهار	پنجوایي		Seperwan	79.3087	65.4425	31.5143		Da shalo Kandaharono kalay	2.1678	Abdul Rauf	13	1	14		
ALT 17	1	E	12	کندهار	پنجوایي		Haji Mohammadkhan	79.3087	65.2981	31.517		Sangesar	1.6923	Haji Abdul Ali	13	1	14		
ALT 18	1	E	12	کندهار	پنجوایي		Kodeza'i	86.7113	65.4193	31.5171		Dabak	2.8882	Sayed Ali	13	1	14		
ALT 19	1	E	12	کندهار	پنجوایي		Haji Rahmuddin	86.7113	65.4193	31.5171		Sapid Rawan	2.0942	Wakil Ahmad	13	1	14		
ALT 20	1	E	12	کندهار	پنجوایي		Chawnay	79.3087	65.4193	31.5171		Sapidrawan Dabac	1.8059	Sayed Ali	13	1	14		
مجموع قریه جات که توسط تیم تحت پوشش قرار گرفته است						10								مجموع					

فهرست سروی – زون E (کندهار) – تیم 13

ولسوالیها: ارغنداب، خاکریز، میوند

اعضاء: نور محمد، شریف الله، م. اسماعیل

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر						نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کوارڈینیت X	کوارڈینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید	
1	1	E	13	کندهار	ارغنداب		Ta'bine Sufla	218.63	65.6395	31.6652		Loi tabin	0.728	Haji Nek Nazar	20	1	21	19-11-05	-	-
2	1	E	13	کندهار	ارغنداب		Sarde-ye'Olya	124.97	65.6969	31.7116		Gul Kalacha	1.4352	Sheer Mohd	20	1	21	20-11-05	-	-
3	1	E	13	کندهار	ارغنداب		'Azizullahkhan Kariz	135.638	65.6565	31.7345		Armandag	4.7631	Alawodin	20	1	21	21-11-05	-	-
4	1	E	13	کندهار	ارغنداب		Miranjan	15.7158	65.7232	31.7407		Mohd yaqub kalacha	0.446	Sayed Mohd	20	1	21	22-11-05	-	-
5	1	E	13	کندهار	ارغنداب		Khwajamulk	135.638	65.7306	31.7476		Maranjan	2.7533	Abdul Qahir	20	1	21	23-11-05	-	-
6	1	E	13	کندهار	خاکریز		Qaydo	316.874	65.5355	31.9281		Now Abad	1.2271	Abdul Salam	20	1	21	24-11-05	-	-
7	1	E	13	کندهار	خاکریز		Hotal	98.6412	65.5089	31.9558		Shargha	4.5068	Rozi khan	20	1	21	26-11-05	-	-
8	1	E	13	کندهار	خاکریز		Zaylabad wa Gholaman	700.517	65.5139	31.9614		Shargha	0.3902	Haji Zahir	20	1	21	27-11-05	-	-
ALT 1	1	E	13	کندهار	ارغنداب		Nagahan	217.628	65.5889	31.6371		bebe hawa Qalacha	0.8726	Ali wola	20	1	21			
ALT 2	1	E	13	کندهار	خاکریز		Charsange Kalan	65.1413	65.5228	31.9681		Zel Abab	0.8004	Mohd Naim	20	1	21			
ALT 3	1	E	13	کندهار	میوند		Capoza'i	125.657	64.999	31.6587		Kalan kecha	4.0397	Sher Mohd	20	1	21			
ALT 4	1	E	13	کندهار	ارغنداب		Lowy Manarah	218.63	65.6067	31.6646		Loy Tabin	0.8772	Haji Nek Nazar	20	1	21			
ALT 5	1	E	13	کندهار	ارغنداب		Khusrawe Sufla	126.243	65.6588	31.6905		Khisrow	0.7144	Mohd	20	1	21			
ALT 6	1	E	13	کندهار	خاکریز		Mondah Gak	241.67	65.4953	31.9085		Arogh	2.519	Haji Qayum Khan	20	1	21			
ALT 7	1	E	13	کندهار	خاکریز		Shukhan	241.67	65.4953	31.9085		Arogh	0.7345	Haji Qayum Khan	20	1	21			
ALT 8	1	E	13	کندهار	ارغنداب		Petaway	190.025	65.5549	31.6149		Sanzari	2.2735	Jan Mohd	20	1	21			
ALT 9	1	E	13	کندهار	ارغنداب		Sikh Chala-ye'Olya	126.243	65.6969	31.7116		Gul Kalacha	2.2762	Sheer Mohd	20	1	21			
ALT 11	1	E	13	کندهار	ارغنداب		Shuyene'Ulya	28.4829	65.7187	31.7382		Mohd yaqub kalacha	1.4378	Abdul Hadi	20	1	21			
ALT 12	1	E	13	کندهار	ارغنداب		Yatimake Ulya	135.638	65.7306	31.7476		Maranjan	2.8917	Abdul Qahir	20	1	21			

فهرست سروی – زون E (کندهار) – تیم 13 (به ادامه ورق قبلی)

ولسوالیها: ارغنداب، خاکریز، میوند

اعضاء: نور محمد، شریف الله، م. اسماعیل

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
ALT 13	1	E	13	کندهار	میوند		Gach Karez Kalay	217.628	64.999	31.6587		Kalan kecha	2.8924	Sher Mohd	20	1	21		
ALT 14	1	E	13	کندهار	میوند		Lalak	95.7956	65.2956	31.8001		Lalak	1.45	Eng. Rahmatullah	20	1	21		
1	2	E	13	کندهار	میوند		Karezak	268.881	65.0133	31.6738		Kalan Kecha (Fasal)	6.7042	Malang	20	1	21	28-11-05	- -
2	2	E	13	کندهار	خاکریز		Sawzal Kariz	95.7956	65.4953	31.9085		Arogh	6.4047	Haji Qayum Khan	20	1	21	29-11-05	- -
ALT 1	2	E	13	کندهار	میوند		Sarkari Karez Kalay	158.932	64.999	31.6587		Kalan kecha	5.3496	Sher Mohd	20	1	21		
ALT 2	2	E	13	کندهار	میوند		Mazra'(Mazra'a)	162.12	64.999	31.6587		Kalan kecha	5.4869	Sher Mohd	20	1	21		
ALT 3	2	E	13	کندهار	میوند		Nasrullahkhan Kalay	155.294	64.999	31.6587		Kalan kecha	7.7235	Sher Mohd	20	1	21		
ALT 4	2	E	13	کندهار	میوند		Khodaydad Akhundzadah Kariz	79.3087	64.999	31.6587		Kalan kecha	7.3856	Sher Mohd	20	1	21		
1	3	E	13	کندهار	خاکریز		Faydzullah Kalay	700.517	65.5371	31.9656		Charsang Khord	11.674	Mohd Akbar	20	1	21	30-11-05	- -
2	3	E	13	کندهار	میوند		Baboran (1)	86.7113	64.999	31.6587		Kalan kecha	13.6214	Sher Mohd	20	1	21	1-12-05	- -
3	3	E	13	کندهار	میوند		Garm Abak Shamli	135.638	65.0033	31.6708		Karizak	11.5585	Mohd Nasim	20	1	21	3-12-05	- -
ALT 1	3	E	13	کندهار	میوند		Chashmeh	86.7113	64.999	31.6587		Kalan kecha	14.5465	Sher Mohd	20	1	21		
ALT 2	3	E	13	کندهار	میوند		Abdullah Akhundzadah Kariz	86.7113	64.999	31.6587		Kalan kecha	14.6535	Sher Mohd	20	1	21		
ALT 3	3	E	13	کندهار	خاکریز		Asad Kalay	193.786	65.5228	31.9681		Zel Abab	13.9908	Mohd Naim	20	1	21		
ALT 4	3	E	13	کندهار	خاکریز		Chuhul	261.655	65.5371	31.9656		Charsang Khord	10.0056	Mohd Akbar	20	1	21		
ALT 5	3	E	13	کندهار	شاه ولي کوټ		Takatu	95.7956	65.7306	31.7476		Maranjan	13.5975	Abdul Qahir	20	1	21		
ALT 6	3	E	13	کندهار	غورک		Kshatta Lakhchak	26.3239	65.4191	31.9362		Tangriz	11.8767	Haji Shahwali	20	1	21		
مجموع قریه جات که توسط تیم تحت پوشش قرار گرفته است				13										مجموع					

فهرست سروی – زون E (کندهار) – تیم 14

ولسوالیها: دامان، ارغنداب، خاکریز، پنج وائی

اعضاء: احمد شاه،

تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کوارديني‌ت X	کوارديني‌ت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
1	1	E	14	کندهار	دامان		De Tarake Kalacha	401.657	65.8167	31.5861		Shorandam	4.3341	Mohd Shah	6	1	7	19-11-05	- -
2	1	E	14	کندهار	دامان		Momand	390.399	65.9472	31.5694		Panjwai center	4.8325	Abdul Qahir	6	1	7	20-11-05	- -
ALT 1	1	E	14	کندهار	شاه ولي کوټ		Pachah	47.4214	65.7306	31.7476		Maranjan	4.5198	Abdul Qadar	6	1	7		
ALT 2	1	E	14	کندهار	کندهار		Gundigan	162.12	65.6389	31.6389		bebe hawa Qalacha	2.1019	Saifullah	6	1	7		
ALT 3	1	E	14	کندهار	کندهار		Kashtta Karghank	162.12	65.6389	31.6389		bebe hawa Qalacha	2.5487	Shah Mohd	6	1	7		
ALT 4	1	E	14	کندهار	ارغنداب		Charbagh	155.294	65.6379	31.6389		bebe hawa Qalacha	0.2905	Mohd Akbar	6	1	7		
1	2	E	14	کندهار	دامان		Landay	158.932	65.9472	31.5694		Panjwai center	9.5491	Haji Shahwali	6	1	7		
2	2	E	14	کندهار	دامان		Kalantar Kalay(Haji Mawladad Kalay)	86.7113	65.7976	31.5232		Akhondzada Kalacha	7.7921	Abdul Qahir	6	1	7	22-11-05	- -
3	2	E	14	کندهار	دامان		Khaleqdad	43.2425	65.8167	31.5861		Shorandam	8.8598	Haji Qayum Khan	6	1	7	23-11-05	- -
ALT 3	2	E	14	کندهار	شاه ولي کوټ		Akhtar Mohammad Khan Kalay	95.7956	65.7306	31.7476		Maranjan	6.8083	Shah Mohd	6	1	7		
ALT 2	2	E	14	کندهار	خاکریز		Charband	261.655	65.5371	31.9656		Charsang Khord	9.2125	Abdul Qadar	6	1	7		
ALT 1	2	E	14	کندهار	دامان		Spina Waleh	190.025	65.9472	31.5694		Panjwai center	9.2403	Ehsanullah	6	1	7	21-11-05	
ALT 4	2	E	14	کندهار	شاه ولي کوټ		Mardanza'i	95.7956	65.7306	31.7476		Maranjan	9.9806	Shah Mohd	6	1	7		
ALT 5	2	E	14	کندهار	خاکریز		Sawzal Kariz	95.7956	65.4953	31.9085		Arogh	6.4047		6	1	7		
ALT 6	2	E	14	کندهار	خاکریز		Shirinak	241.67	65.4195	31.9357		Tangriz	6.0624		6	1	7		
1	3	E	14	کندهار	دامان		Sokhta-i-Mohammad	86.7113	65.7976	31.5232		Akhondzada Kalacha	13.5676		6	1	7	24-11-05	- -
2	3	E	14	کندهار	دامان		Mundab	86.7113	65.8055	31.5269		Shana Sayed Kalacha	10.9759	Abdul Rahim	6	1	7	26-11-05	- -
ALT 1	3	E	14	کندهار	کندهار		Esma'il Kariz	86.7113	65.5174	31.4394		Regwa	13.2682	M Aqa	6	1	7		
ALT 3	3	E	14	کندهار	دامان		Da'i Kalay	86.7113	65.7976	31.5232		Akhondzada Kalacha	11.3021	Abdul Qadar	6	1	7		
مجموع قریه جات که توسط تیم تحت پوشش قرار گرفته است						4								مجموع					

فهرست سروی – زون **F** (هرات) – تیم 15

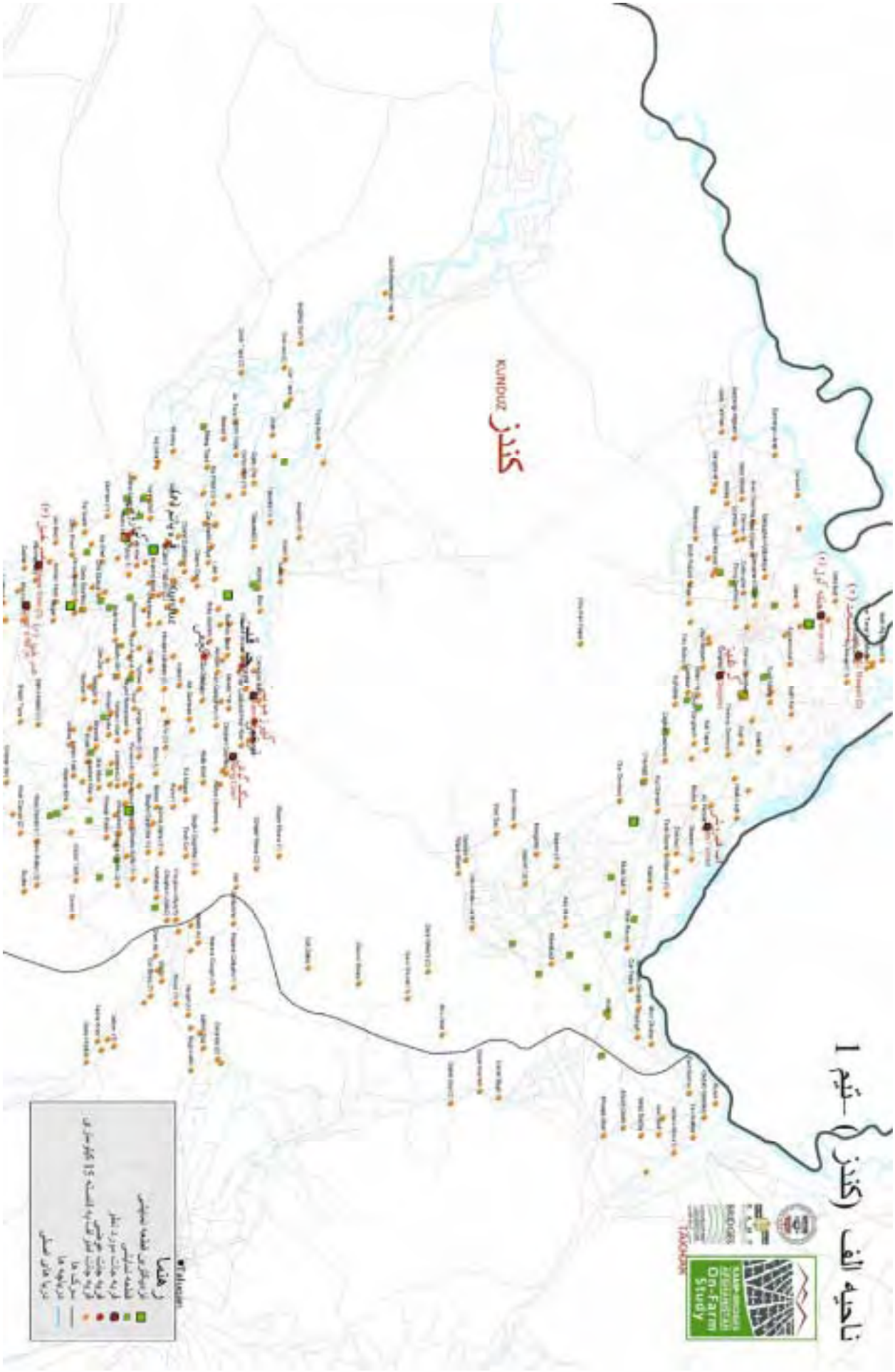
ولسوالیها: گذاره، پشتون زرگ، انجیل، کرخ

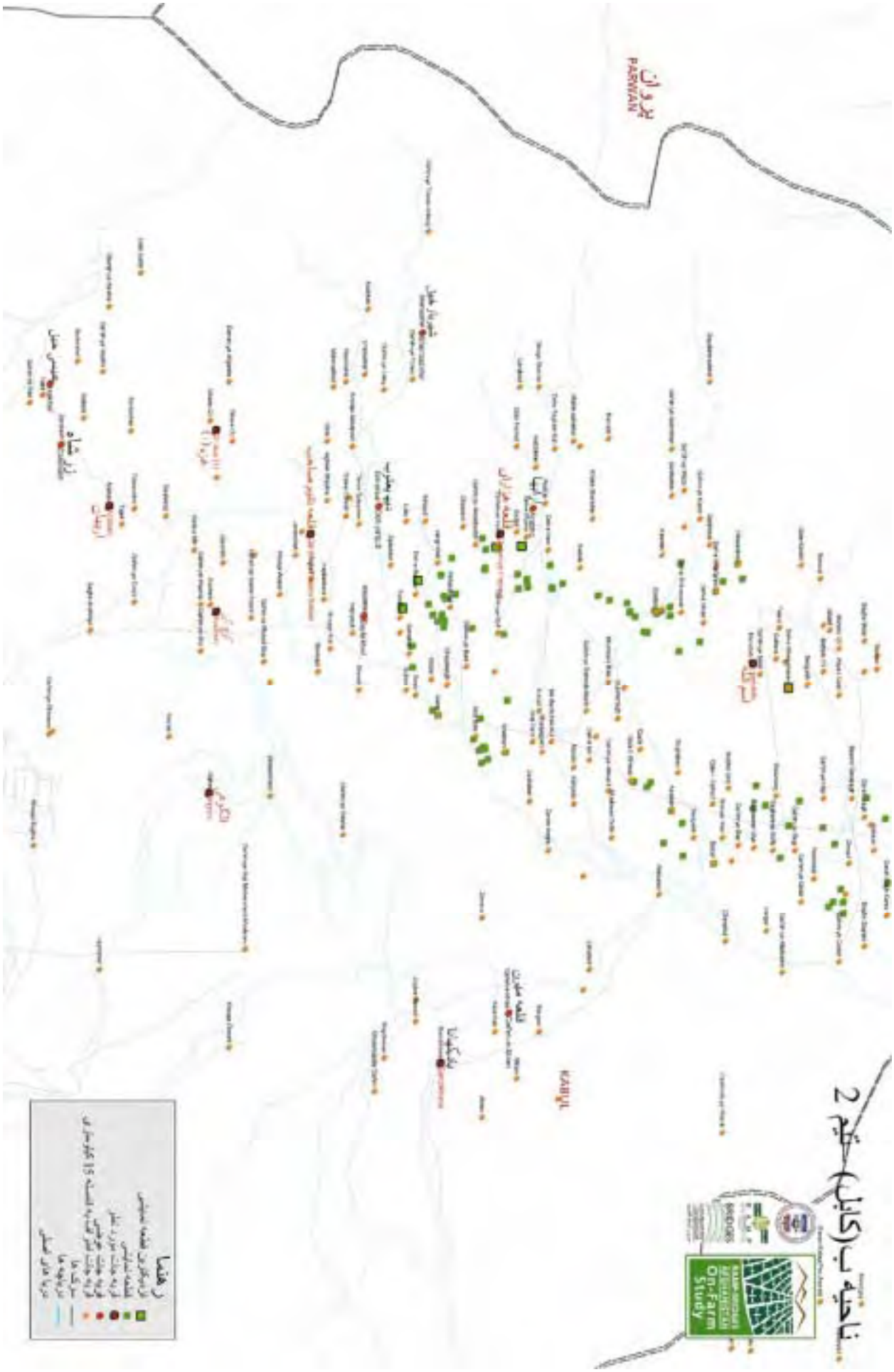
اعضاء: عبدالرزاق، هدایت الله، عبدالغفور

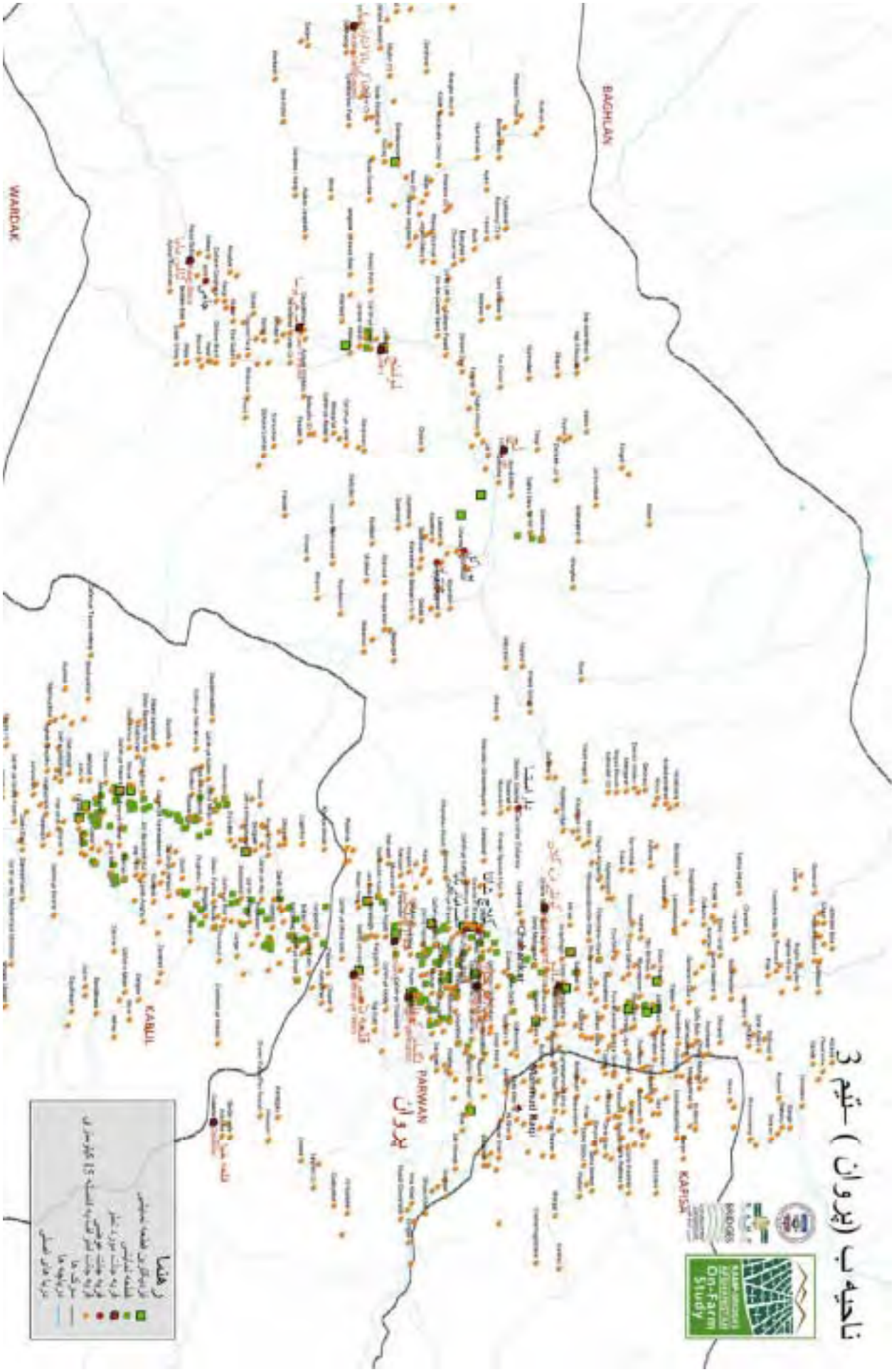
تیم ها به اساس زون				معلومات راجع به قریه مورد نظر					نزدیکترین قطعه نمایشی						سروی های پلان شده				
شماره	Strata	زون	تیم	ولایت	ولسوالی	قریه	Settlement	تراکم نفوس	کواردینیت X	کواردینیت Y	قریه مورد نظر	Nearest Demo Plot	فاصله	دهقان	سروی های قریه مربوطه	سروی های قطعات نمایشی	مجموع سروی ها	بازدید پیشنهادی	تاریخ بازدید
1	1	F	15	هرات	گذاره		Kalatah (2)	31.7642	62.1094	34.1966		Jooyan	1.4029	Nasar Ah	20	1	21	19-11-05	- -
2	1	F	15	هرات	گذاره		Qaleh-ye Mira	31.7642	62.1104	34.2152		Esfaghan	2.595	Nasar Ah	20	1	21	20-11-05	- -
3	1	F	15	هرات	گذاره		Syah Washan	31.7642	62.2849	34.2334		Saheb Zadeh	0.8026	Ab.Jabar	20	1	21	21-11-05	- -
4	1	F	15	هرات	پشتون زرغنون		Juy-i-Naw	181.831	62.4079	34.2576		Shamakeh	4.1706	Gholam Hidar	20	1	21	22-11-05	- -
5	1	F	15	هرات	گذاره		Dashan	31.7642	62.4079	34.2576		Shamakeh	3.0154	Gholam Hidar	20	1	21	23-11-05	- -
6	1	F	15	هرات	انجیل		Bagh-i-Masan	255.388	62.2675	34.2759		Rabat Sagharihа	0.4698	Oghab	20	1	21	24-11-05	- -
7	1	F	15	هرات	انجیل		Kushki Sag	181.831	62.2675	34.2759		Rabat Sagharihа	0.7681	Merajuddin	20	1	21	26-11-05	- -
8	1	F	15	هرات	انجیل		Kushkak	181.831	62.2737	34.283		Bagh Mason	2.4443	Sharafuddin	20	1	21	27-11-05	- -
9	1	F	15	هرات	انجیل		Sawrestan (1)	33.9956	62.2356	34.3001		Turkan	0.8419	M Anwar	20	1	21	28-11-05	- -
10	1	F	15	هرات	انجیل		Torkan-i-Ulya	33.9956	62.2356	34.3001		Turkan	0.441	Mohamad	20	1	21	29-11-05	- -
11	1	F	15	هرات	انجیل		Rabat Waysi	33.9956	62.2613	34.3226		Jallal	0.1349	Mohamad	20	1	21	30-11-05	- -
12	1	F	15	هرات	انجیل		Espaghan	31.7642	62.1104	34.2152		Esfaghan	0.6228	Gholam Hidar	20	1	21	01-12-05	- -
ALT 1	1	F	15	هرات	گذاره		Ghoran	31.7642	62.1266	34.218		Esfaghan	0.1934	Oghab	20	1	21		
ALT 2	1	F	15	هرات	گذاره		Khwaja Alem	31.7642	62.1167	34.2533		Robat Mirza	0.1984	Salih Moh	20	1	21		
ALT 3	1	F	15	هرات	انجیل		Shadi Jam	255.388	62.3503	34.2685		Kol Khorma	1.4749	Salih Moh	20	1	21		
ALT 4	1	F	15	هرات	انجیل		Rabat-i-Darwas Mir Haydar	33.9956	62.3503	34.2685		Kol Khorma	4.109	Golnoor	20	1	21		
ALT 5	1	F	15	هرات	انجیل		Nawin-i-Sufla	33.9956	62.2356	34.3001		Turkan	0.961	Golnoor	20	1	21		
ALT 6	1	F	15	هرات	انجیل		Abdul Abad	33.9956	62.25	34.3299		Jallal	0.1781	Golnoor	20	1	21		
1	2	F	15	هرات	کارخ		Ghuran	33.9956	62.4079	34.2576		Shamakeh	5.8521		20	1	21	03-12-05	- -
2	2	F	15	هرات	کارخ		Jandeh Khan	33.9956	62.4079	34.2576		Shamakeh	8.2589		20	1	21	04-12-05	- -
ALT 1	2	F	15	هرات	گذاره		Bedai	269.156	62.3932	34.2033		Kool	7.04975		20	1	21		
1	3	F	15	هرات	گذاره		Rabat-i-Sapcha	76.0573	62.3932	34.2033		Kool	11.4133		20	1	21	05-12-05	- -
ALT 1	3	F	15	هرات	گذاره		Mulla Ata	465.082	62.3932	34.2033		Kool	9.58493		20	1	21		
قریه جات که توسط تیم تحت پوشش قرار گرفته است						15								مجموع					

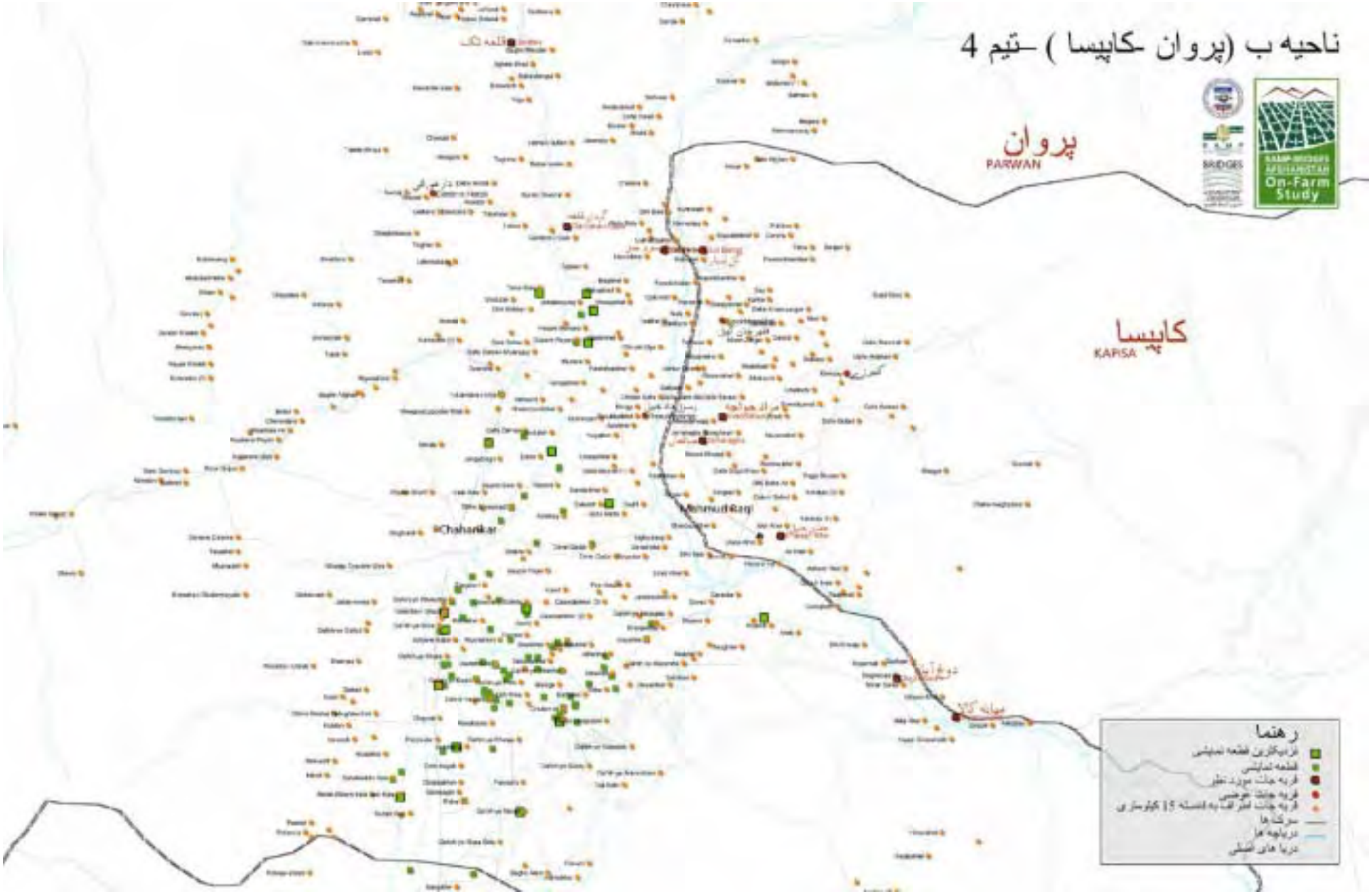
Annex D

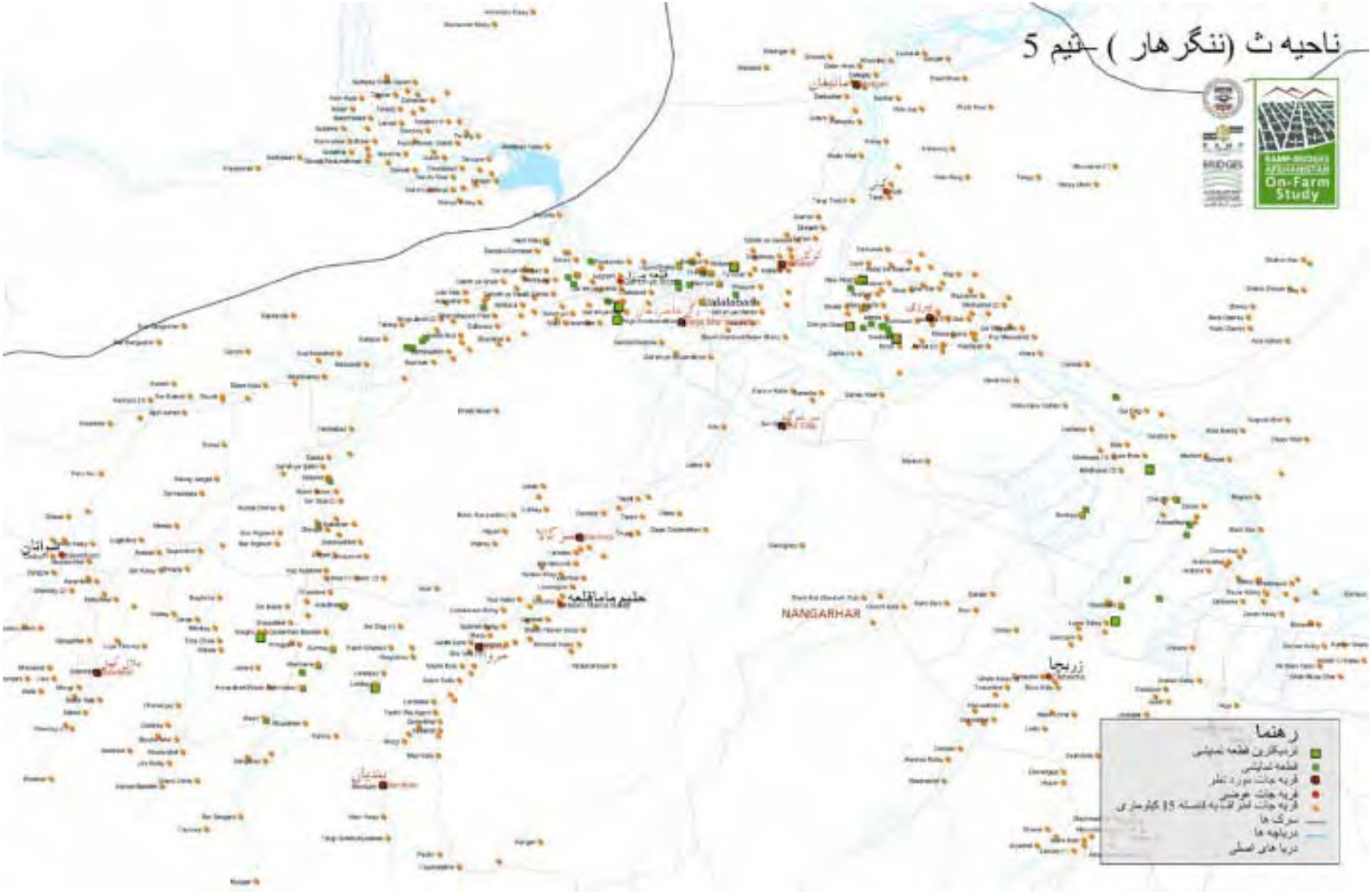
Settlement Maps by Teams


ناحیه الف (کندز) - نقشه ۱
KUNDUZ
کندز
TAKHAR
BRIDGES
RAMP
On-Farm Study
Legend

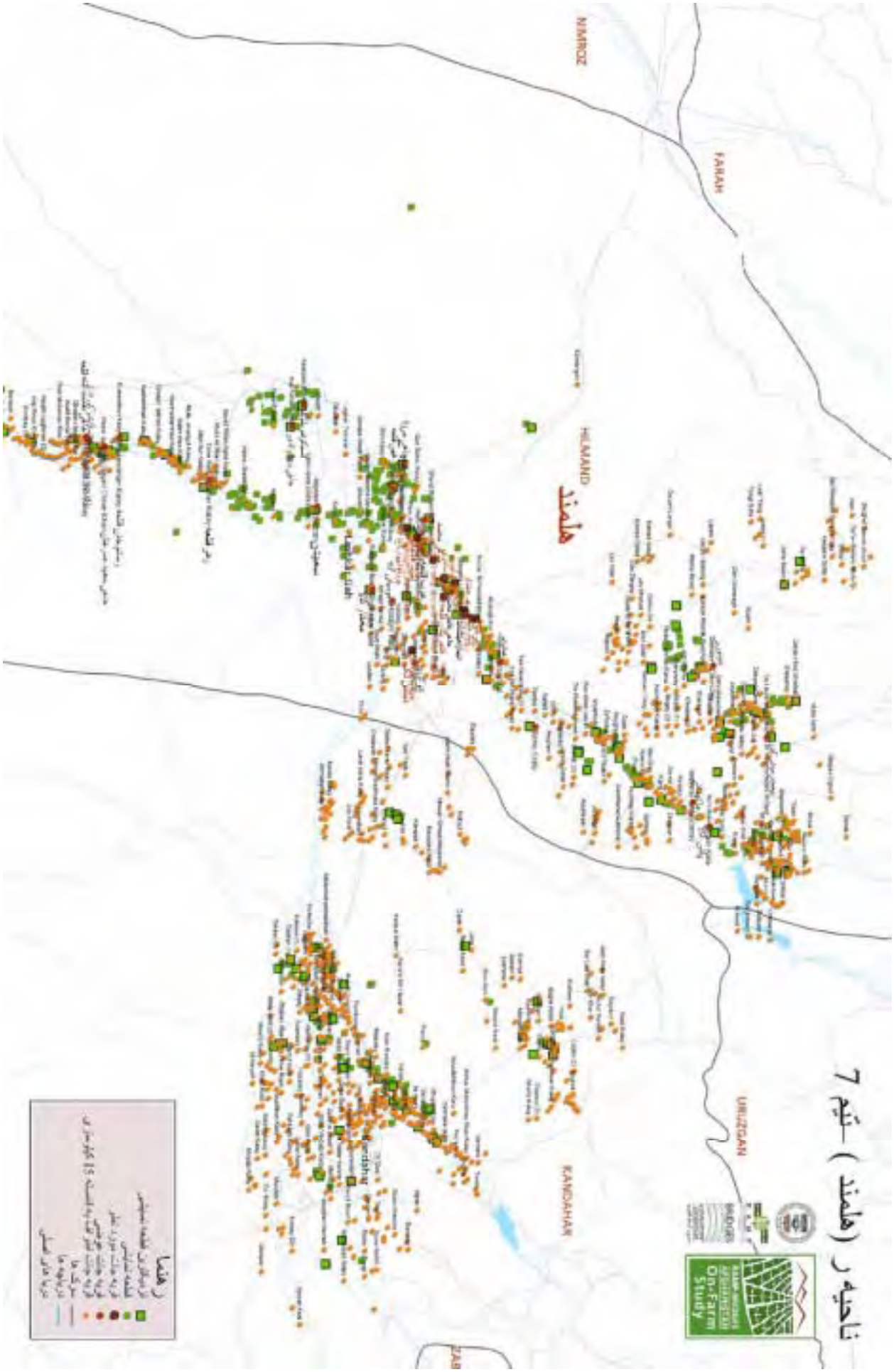

ناحیه ب (کابل) - تیم 2
RAMP
AFGHANISTAN
On-Farm
Study
BRIDGES
پروان
PARWAN
KABUL
راهنما

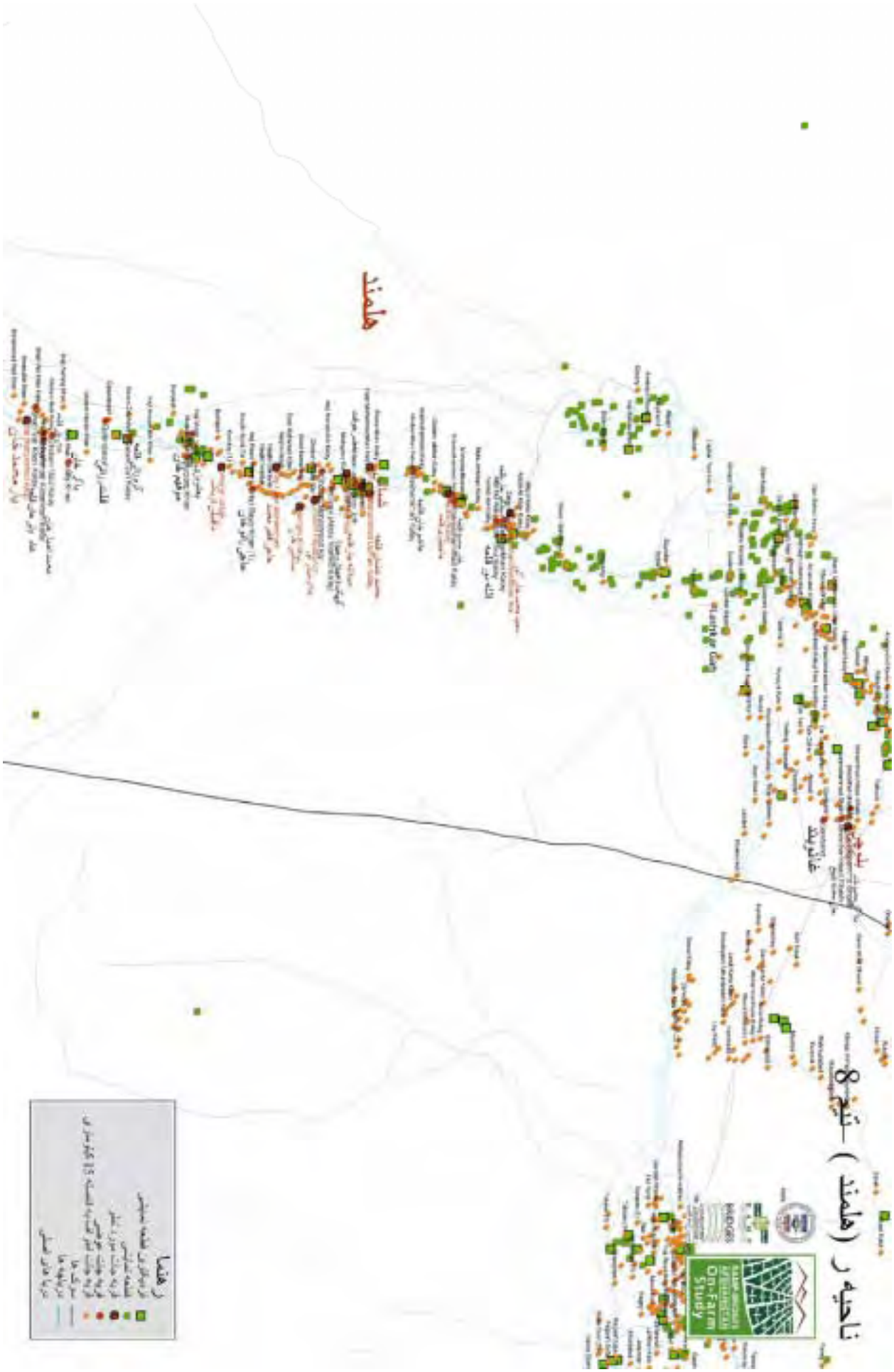

ناحیه ب (پروان) – تیم 3
BRIDGES
RAMP
On-Farm Study
KAPISA
PARWAN
پروان
BAGHLAN
KABUL
WARDAK
رهنما

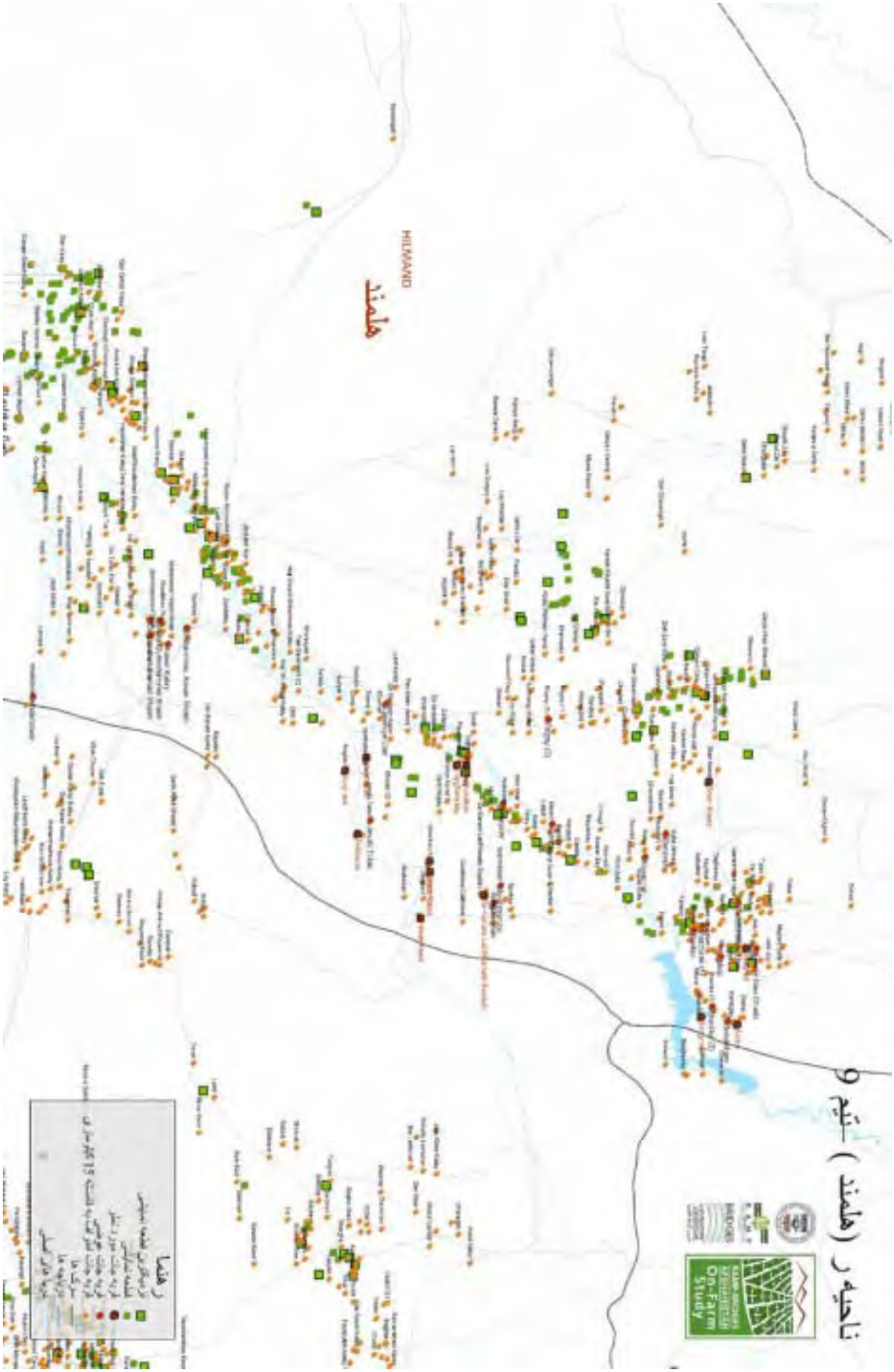

ناحیه ب (پروان -کاپیسا) -تیم 4
پروان
PARWAN
کاپیسا
KAPISA
Chaharikar
Mahmud Raqi
BRIDGES
RAMP-BRIDGES AFGHANISTAN
On-Farm Study
رهنما
قریه‌کاری قطعه نمایشی
قطعه نمایشی
قریه جات مورد نظر
قریه جات عرضی
قریه جات اطراف به فاصله 15 کیلومتری
سرک ها
دریاچه ها
دریا های اصلی

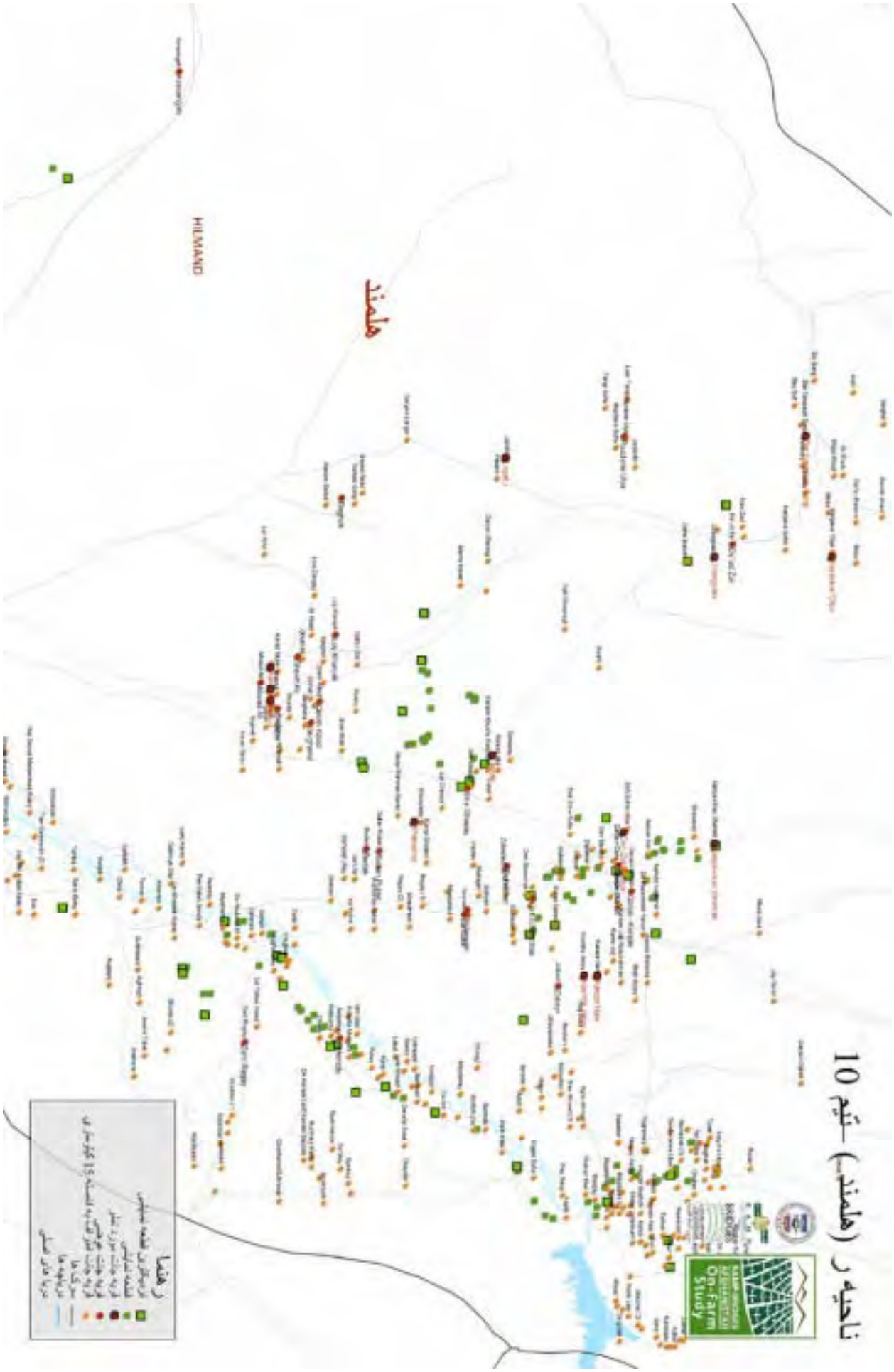

ناحیه ث (ننگرهار) تیم 5
RAMP-BRIDGES AFGHANISTAN
On-Farm Study
BRIDGES
Jalalabad
NANGARHAR
رهنما
نزدیکترین قطعه نمایشی
قطعه نمایشی
قریه جات دور از نظر
قریه جات عرضی
قریه جات نظر اقتا به فاصله 15 کیلومتری
سرک ها
دریاچه ها
دریا های اصلی

ناحیه د (غزنی) –کیم 6
غزنی
GHAZNI
قلعه عطا محمد خان
رهنما
قریه‌اولین قطعه نمایشی
قطعه نمایشی
قریه جات مورد نظر
قریه جات عرضی
قریه جات اضافه به فاصله 25 کیلومتر
سرک ها
دریاچه ها
دریا های اصلی
BRIDGES
RAMP-BRIDGES AFGHANISTAN
On-Farm Study

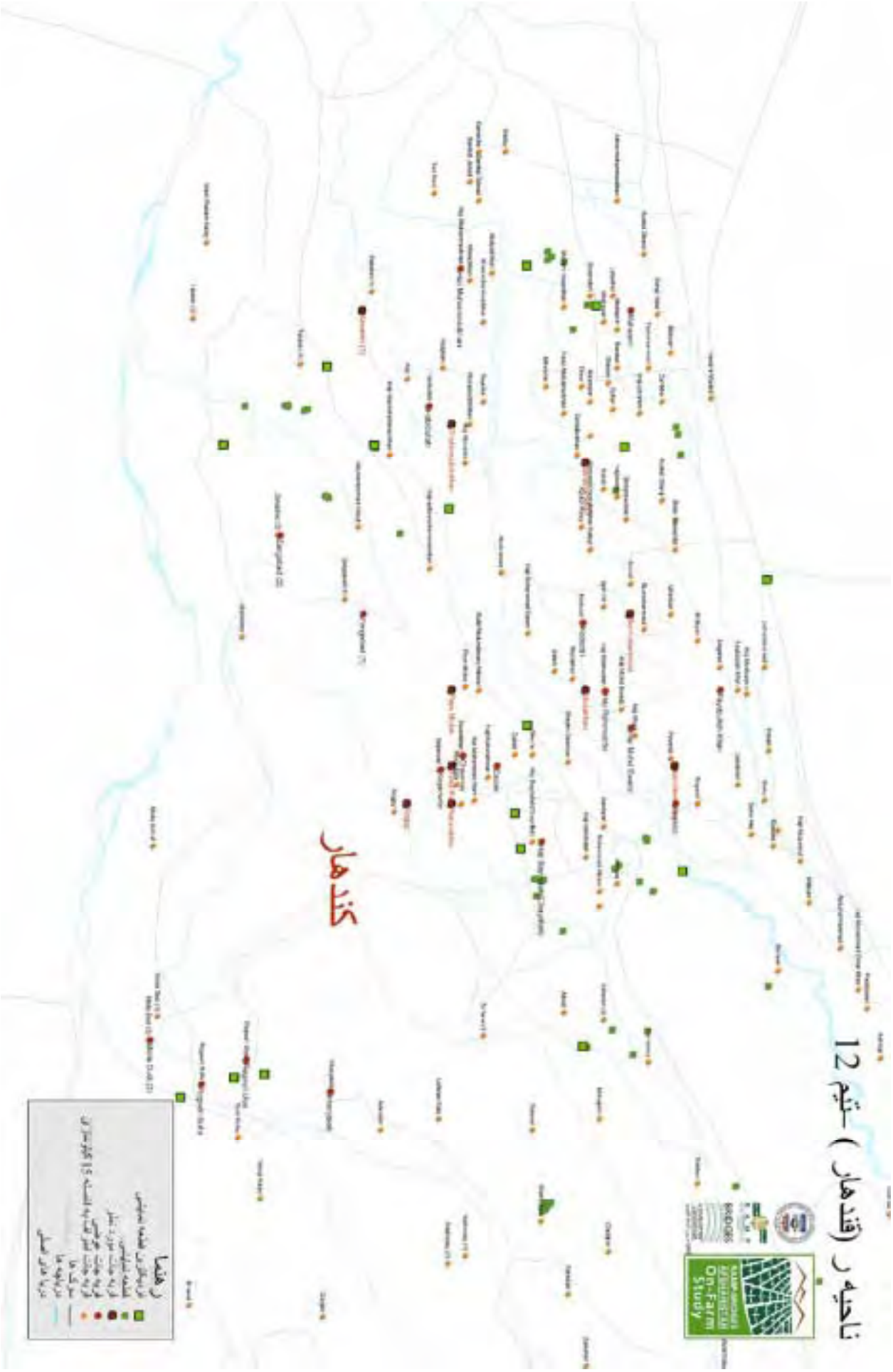

ناحیه ر (هلمند) نمبر 7
FARAH
NIMROZ
HILMAND
هلمند
URUZGAN
KANDAHAR
BRIDGES
RAMP
On-Farm
Study

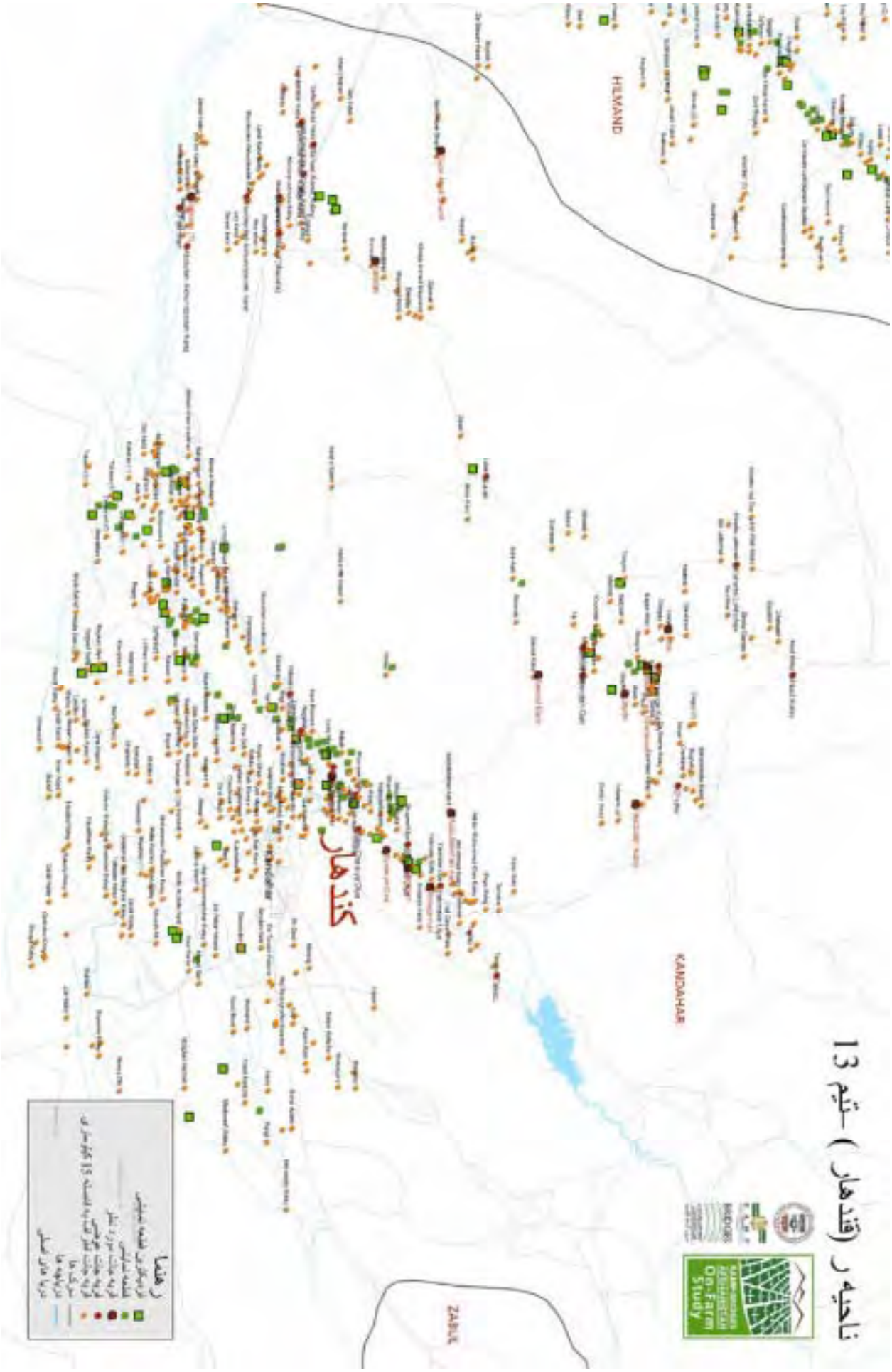

ناحیه ر (هلمند) – نقشه 8
BRIDGES
RAMP
On-Farm Study
غازی‌بند
هلمند
راهنما


ناحیه ر (هلمند) تیم 9
On-Farm Study
HILMAND
هلمند
راهنما

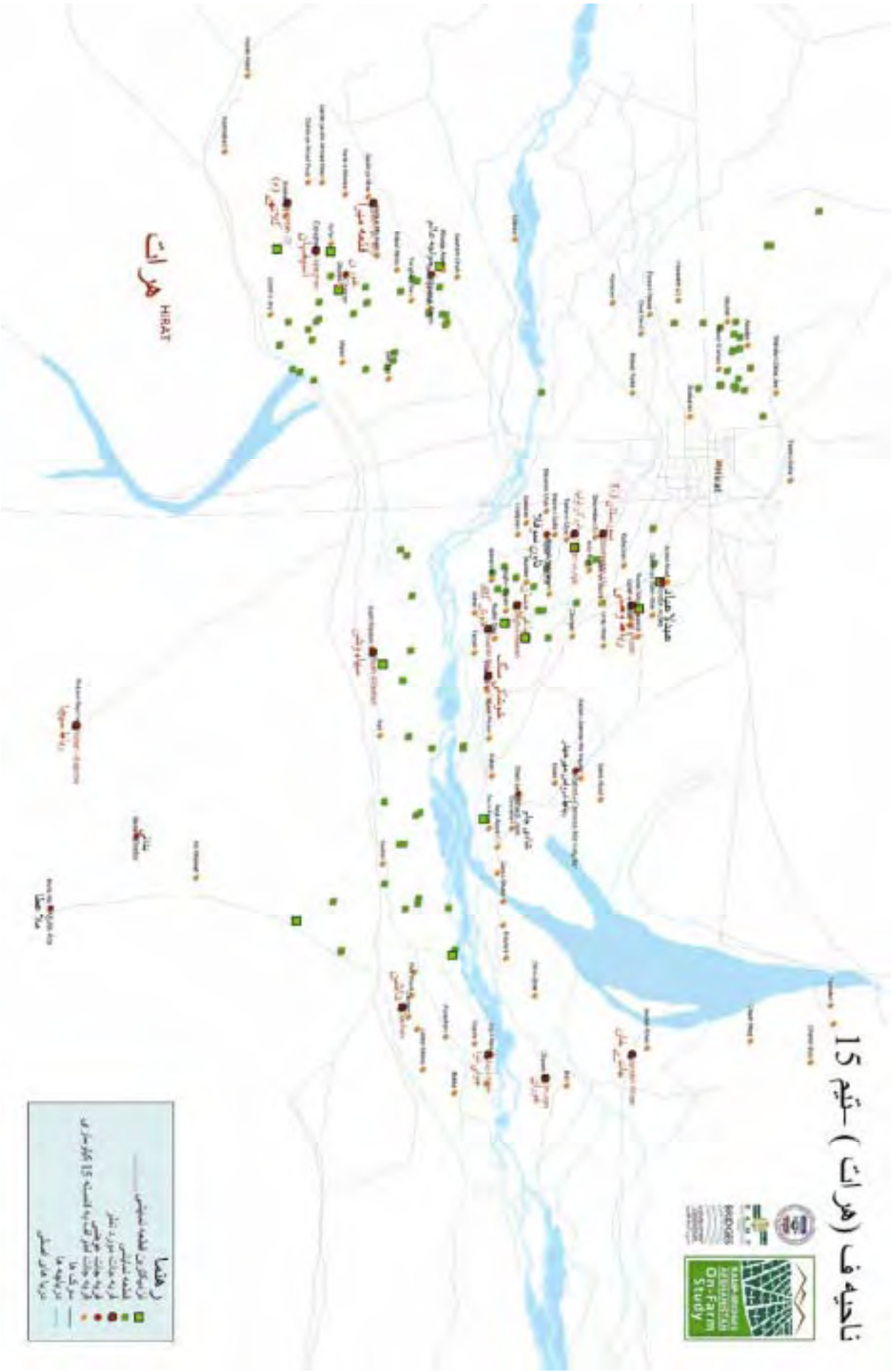

ناحیه ر (هلمند) –تیم 10
BRIDGES
RAMP
On-Farm Study
هلمند
HILMAND
راهنما

ناحیه ر (قندهار) –تیم 11
کندهار
Kandahar
رهنما
نزدیکترین قطعه نمایشی
قطعه نمایشی
قریه جات مورد نظر
قریه جات عرضی
قریه جات نظر افتاده به فاصله 15 کیلومتری
سرک ها
دریاچه ها
دریا های اصلی


ناحیه ر (قندهار) –تیم 12
BRIDGES
RAMP
On-Farm
Study
کندهار
رهنما


ناحیه ر (قندهار) –تیم 13
HILMAND
KANDAHAR
ZABUL
کندهار
رهنما

ناحیه ر (قندهار) –تیم 14
KANDAHAR
گندهار
Kandahar
رهنما
قریه‌گزین قطعه نمایشی
قطعه نمایشی
قریه جات مورد نظر
قریه جات عرضی
قریه جات نظر گرفته به فاصله 15 کیلومتری
سرک ها
دریاچه ها
دریا های اصلی


ناحیه ف (هرات) - تیم 15
BRIDGES
RAMP
On-Farm Study
هرات
HIRAT
رهنما

Annex E

Materials used for Enumerator Training in Kabul

RAMP-BRIDGES AFGHANISTAN On-Farm Study

Survey Design – BRIDGES-RAMP – On-Farm Study

Assessing the Impact of Demonstration Plots Introducing Agricultural Best Practices in Afghanistan (September '05 – Jan '06)

BRIDGES

A DEVELOPMENT CONSORTIUM

www.bridgesconsortium.org

Project Background

- Afghanistan – a country with a rich agricultural history was once agriculturally self sufficient with farming households producing over 86 percent of their food.
- Today, with years of war and drought the country has witnessed a decline in agricultural production with crop yields plummeting to less than 50 percent and agricultural production declining to only 45 percent of the pre war (1978) levels.
- Yet there is remarkable room for improvement and with the use of improved technologies and inputs, the enormous gap between the actual and potential yields can be bridged. For instance, with proper training and assistance it is estimated that the wheat production in the irrigated areas can be almost doubled.
- For this, RAMP (Rebuilding Agricultural Markets in Afghanistan Program), among other activities, relies on the strength of extension education and demonstration plots imparting the use of best practices and technologies, to result in a revival of the agricultural sector.
- This survey is an evaluation of how the demonstration plots and related extension services, undertaken by RAMP through its partners, can help the farmers and policy makers lay the foundations for creating a prosperous and thriving agricultural base in Afghanistan.

Objectives of the Survey

- To determine how quickly the farmers are learning the new techniques and to document the practices which are being followed by the farmers.
- To assess how a learning of these techniques results in increased agricultural productivity and yields.
- To understand which factors act as constraints to the adoption of technology.
- To gain an insight into farmer perceptions affecting decision making.
- To be able to capture the spread of the new techniques among the surrounding farmers.
- To draw lessons from this pioneering study which will be beneficial to policy makers in the design of future extension projects.

Survey Instruments and Interviewing Tips

Interviewer Instructions

- The survey demands considerable time and thought from the respondents. Be sure to approach the respondents with a polite, patient and tactful attitude.
- Remain neutral. People often try to come up with pleasing answers.
- You may have strong feelings on an issue but try to capture the respondents' attitude accurately, to the best of your abilities.
- Do not prompt a response. If the respondent has difficulty answering a question, explain the meaning of the question without divulging the answers.
- Proceed in a systematic manner and do not move to the next section until all the questions from the previous section have been answered.
- Remember that winning the trust and confidence of respondents is crucial to extracting information.
- Afghan farmers depend on your honesty and integrity for the success of this program.

جدول درج معلومات رجوع به سروی

سند (فورمه) سروی

دهقان و زمینداری

	دهقان	دانه	دهقانی
	1	2	3

الف. مجموع _____ ب. _____ ج. _____ د. _____

الف. فعلی _____ ب. آبی _____

فعالیتها، سهم گیری و عکس العمل های ترویج

	فعالیتها	دهقان چند مرتبه این فعالیتها را انجام داده	زیاد مفید است	کم مفید است	متوسط مفید است	کمتر مفید نیست	هیچ مفید نیست
			فعالیتهای فوق برای دهقان چقدر مفید بوده است				
الف	بازدید از فعالیت دهقانی	_____	1	2	3	4	5
ب	دعوت به روز سلسله	_____	1	2	3	4	5
ج	بازدید از روز سلسله	_____	1	2	3	4	6
د	شرکت در جلسات و ورکشاپها	_____	1	2	3	4	5
ه	رفتن دهقان به مناطق ترویج	_____	1	2	3	4	6
و	رفتن مبلغین ترویج به دهقان	_____	1	2	3	4	5
ز	مکاتبه مستقیم به دهقان پروگرام	_____	1	2	3	4	6
ح	عضویت پروگرام ها زراعتی از رادیو	_____	1	2	3	4	6
ط	دیدن پروگرامهای زراعتی در تلویزیون	_____	1	2	3	4	6
ی	بازدید از تحقیقات زراعتی	_____	1	2	3	4	5

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تغیر وتبادله کانسا (معلومات و دانش، وضعیت/ احساسات، مهارتها، خواهشات)

I. آیا دهقان با مواد ذیل موافق است: ("1" به این معنی که دهقان بطور مکمل باساده که در طرف چپ قرار دارد موافق میباشد، "10" به این معنی که دهقان بطور مکمل با ساده که در طرف راست قرار دارد موافق میباشد، و اگر نظریات دهقان در بالا در حق اسفلت شد، در این صورت شماره را مطابق از رایگی دیدیش و نظریات آنها انتخاب نمایید.

الف. من رادیو به خدمات ترویج زراعتی میدانم	1	2	3	4	5	6	7	8	9	10	
ب. من با یک نفر از بخش خدمات ترویج مربوط به خدمات زراعتی ملاقات نمودم	1	2	3	4	5	6	7	8	9	10	
ت. من به مواد ترقیه زراعتی مثل تخم بذری، کود، کیمیاوی و انبوره های جدید آفات دسترسی دارم	1	2	3	4	5	6	7	8	9	10	
ث. من به آلات و ابزار جدید (زراعتی، کدو، وقتی مکنین زرع و غیره دسترسی دارم	1	2	3	4	5	6	7	8	9	10	
ج. من از منافع دیدیش به پول دسترسی دارم و شاید از آن برای جست آورد این ریشها استفاده کرد	1	2	3	4	5	6	7	8	9	10	
ح. من از موسسات و ادارات عمومی/خصوصی به فرصت دسترسی دارم تا روشهای زراعتی را اتخاذ نمایم.	1	2	3	4	5	6	7	8	9	10	
خ. من میتوانم برای اتخاذ نمودن روشهای توصیه شده فرصت بیابم	1	2	3	4	5	6	7	8	9	10	
د. سایر دهقان نیز این ریشها را اتخاذ نمیکنند	1	2	3	4	5	6	7	8	9	10	
ذ. استفاده از این تخنیک ها برای از بین بردن حشرات خاطر اهمیت میباشد	1	2	3	4	5	6	7	8	9	10	
ر. این ریشها در کارهای طولانی موثر میباشد	1	2	3	4	5	6	7	8	9	10	
ز. من احساس میکنم که برای اتخاذ نمودن این تخنیک ها مشورت و تربیه کافی دارم	1	2	3	4	5	6	7	8	9	10	
س. با وجود شرایط اقلیمی دهقان میتواند برای اصلاح و بهبود روشهای زراعتی سعی نماید میشود	1	2	3	4	5	6	7	8	9	10	
ش. دهقان میتواند روشهای زراعتی خویش را با وجود عدم موجودیت سرکهای پل ها، آب آبیاری و زیربناء کافی اصلاح و بهبود بخشد	1	2	3	4	5	6	7	8	9	10	
ص. رواق باید رادیو به روشهای زراعتی دقیق دکما تصحیح دگردد	1	2	3	4	5	6	7	8	9	10	
ض. در مزرعه من تصویر دار کدام مسئله و موضوع دقیق شوند	1	2	3	4	5	6	7	8	9	10	

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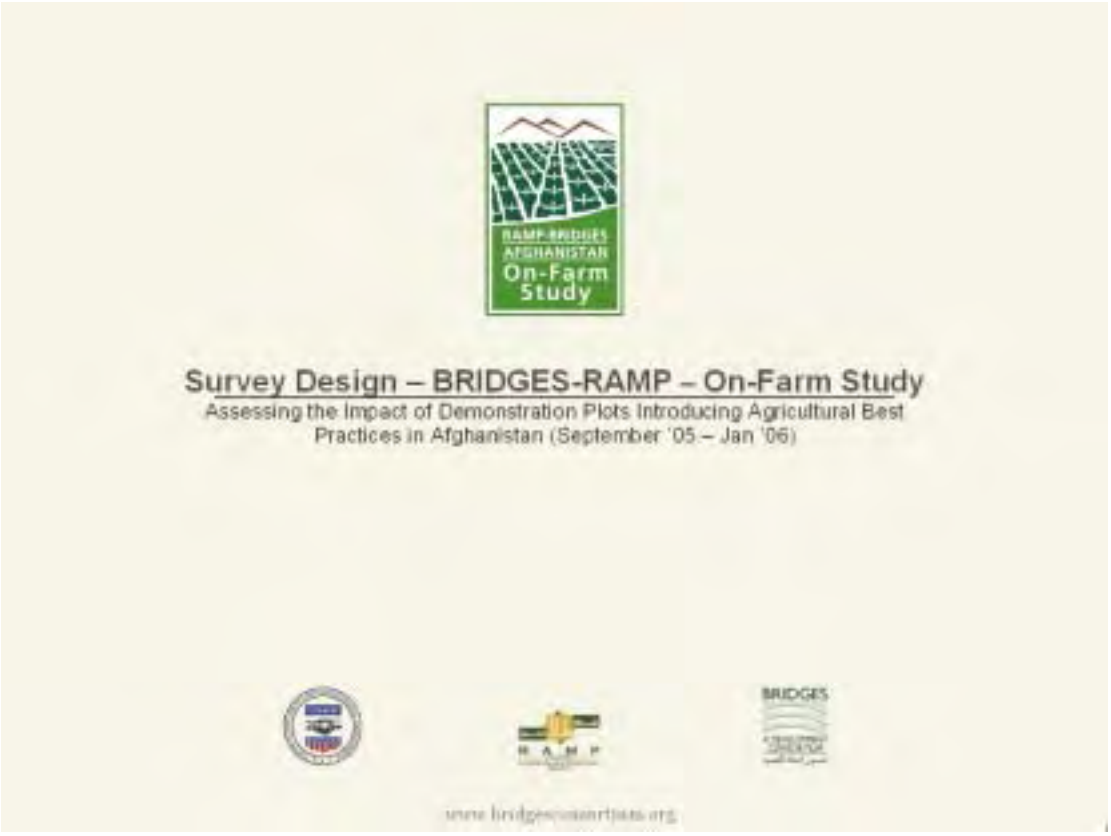
SEEC is a measure of the profitability of adopting the recommended technologies. It gathers information about the crop area under cultivation, the inputs used in production and the corresponding yields accruing to the farmers.


RAMP-BRIDGES
AFGHANISTAN
On-Farm
Study
Survey Design – BRIDGES-RAMP – On-Farm Study
Assessing the Impact of Demonstration Plots Introducing Agricultural Best Practices in Afghanistan (September '05 – Jan '06)
BRIDGES
www.bridgescoalitionplus.org

Practices change, documents the adoption of new practices, techniques and behaviours that were learnt through participation in the extension program. It gathers information about the time of adoption and the major source of knowledge about the practice.
BRIDGES

مشخصات ساخت مزرعه (فارم)

تعداد نفرین یا جمعیت (زن‌ها و مرد ساخت مسکونی)

1. کمتر از 1000 — 2. بین 1000 الی 25000 — 3. بیشتر از 25000 الی 50000 — 4. بالاتر از 50000

در شما از بازار چقدر فاصله دارید؟

1. فاصله _____ کیلومتر — 2. زمان _____ دقیقه

چه برای اسفرجی و زمینهای به بازار، چه در سه از سرک استفاده میکنید

1. سرک اسفالت شده (قیر) _____ — 2. سرک اسفالت نشده (شنه) _____ — 3. هیچ از سرک اسفالت میباشد _____

در نقشه خدمات ذیل موجود را که در محل مسکونی ای موجود میباشد، شماره بدهید

	هیچ وجود ندارد	بسیار کم	متوسط	خوب	بسیار خوب
1. مخابرات موبایل	0	1	2	3	4
2. وضعیت سرک ها	0	1	2	3	4
3. بسیار عمومی	0	1	2	3	4
4. وضعیت مکاتب	0	1	2	3	4
5. وضعیت آب آشامیدنی و بسیار آبیاری	0	1	2	3	4
6. وضعیت برق	0	1	2	3	4
7. موجودیت مانع غیرفلاتی (غیر اجباری، فروشگاه‌های قریه، سد، مشترک و غیره)	0	1	2	3	4
8. دفتر با اداره فروش	0	1	2	3	4
9. دفتر با اداره بسیاری	0	1	2	3	4
10. سهولت های درجه خدمات فریشت	0	1	2	3	4
11. فرصت های مناسب برای فروش محصولات در خارج از قریه (بازاری، برنامه محلی و غیره)	0	1	2	3	4
12. وضعیت سرک‌ها و درجه خدمات دولتی	0	1	2	3	4

مشخصات یا سابقه دهقان

سوالهای ما در باره سابقه کار و تجربه کاشت کار در زمینه سوال میباشد این معلومات و سایر معلومات جمع آمده از این سروی، اطلاعات محقق و تجربه اجتماعی استفاده جمعیت و عام معلومات سفری دیگر میباشد.

تعداد عمر دهقان وقتیکه به این پرسش ما جواب میدهد (_____ سال)

در حقیقی دهقان وقتیکه به این پرسش ما جواب میدهد (آیا مرد یا زن باشد میباشد)

1. خانم — 2. مرد

چه درجه تعلیم و یا تحصیل دهقان (آیا مرد یا زن) باشد میباشد

1. بیسواد — 2. تعلیم درجه ابتدایی — 3. مکاتب ابتدائیه — 4. مکاتب متوسطه — 5. لیسه (صنعت، ...) — 6. تا پوهنتون یا پوهنحی — 7. درجه لیسانس

در زبان مادری تان چه است (زبانی از زبان های ذیل را انتخاب میشود)

1. دری — 2. پشتو — 3. ترکمنی — 4. اوزبکی — 5. عام زبان دیگر _____

در روستا:

1. شما نیز زمینداری دهقان حاضر میباشد — 2. شما دیر وقتی و یا در زمین دهقان حاضر میباشد

زمین در قریه که دهقان حاضر کار می و به چه درجه درجه خانه ساخته اطلاعا آنرا خریده؟ _____

زمین درآمد یا عایدات ذیل چقدر نزدیک از عام مالیه چقدر است

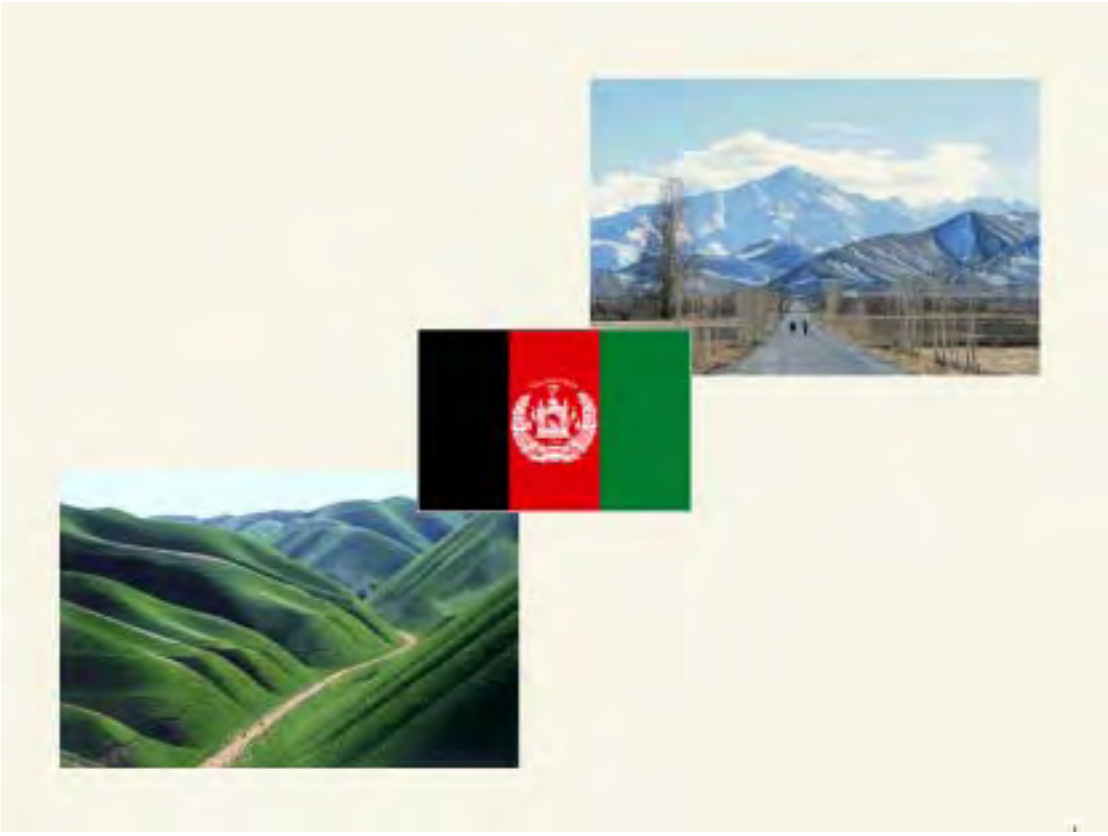
1. _____ (به افغانی) — 2. _____ در سه ماه (یا در یک سال چند سه)

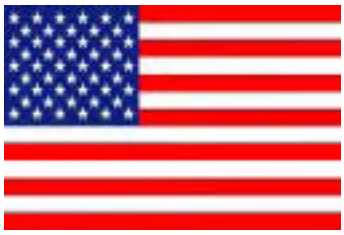
چه چند عمر، تحصیل چون دهقان، که در دیل کار میکرد، با مالیات دهقان زندگی میکند

1. خانه دهقان بالا در سن (4) سال ____ نفر — 2. خانه دهقان عمر از سن (4) سال ____ نفر
3. خانه دهقان بالا در سن (4) سال ____ نفر — 4. خانه دهقان عمر از سن (4) سال ____ نفر

نظر دهقان در مورد خریدن و تولید استفاده در روشها و تخنیک ها و چه چند چه دهقان میباشد

	زیاد	متوسط	کم	بی تاثیر
1. استفاده از Dripping مانع توفانی (آیا در زمین خود اجباری، دیگر)	1	2	3	0
2. وضعیت و تصورات دهقان مانع توفانی	1	2	3	0
3. برق	1	2	3	0
4. تصویر دارد	1	2	3	0
تولید				
5. افزایش درجه محصولات و عایدات	1	2	3	0
6. دهقان حاضر در محصولات	1	2	3	0
7. تصدیق حاضر	1	2	3	0
8. افزایش دهقان و دهقانیت در مورد کار و در خدمت در مدت	1	2	3	0
9. دستاورد (تصدیق) بهتر زندگی	1	2	3	0



USAID

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