

**RESEARCH IN ALTERNATIVE LIVELIHOODS FUND (RALF)  
RESEARCH PROJECT PROPOSAL**

<b>RALF Project Number</b>	<b>RALF01-11</b>
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**SECTION A: ADMINISTRATIVE INFORMATION**

<b>1. Project Title</b>	<b>Improved rural incomes from better forage production and sales of milk products</b>
<b>2. Start and Finish Dates</b>	Start: 1 June 2004    Finish: 31 December 2006
<b>3. Target areas in Afghanistan</b>	Selected poppy growing areas in Baghlan Province.

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## SECTION B: PROJECT PROFILE

### 8. Project Summary (600 words)

An estimated 20 – 30% of rural Afghans are said to be at least partially dependent on opium poppies, either by growing it or as labourers who tend and harvest the crop. The proposed project aims to promote alternative livelihoods by examining ways to increase household income using existing land, labour and water resources and small amounts of additional purchased inputs. The income would come from the higher outputs and sales of milk products from well-fed and healthy cows and to a lesser extent from goats and sheep.

The project's target area is five communities spread across Baghlan Province which has a significant area of poppy cultivation. In the rural areas of Baghlan most households have some arable land and many of them own a cow or two, some small ruminants and a few chickens. Milk produced mainly by cows is consumed fresh or as milk products and the surplus is bartered for other goods or sold to traders. To make more milk products available for marketing, the feeding, health care and management of the livestock needs to be improved. Better feeding is achieved by improving the supply of good quality forage from better varieties and cultural practices and the effective use of irrigated and rainfed land. Up to 15 households in each community would be involved in the project.

The project brings together expertise at ICARDA, the Aga Khan Foundation (AKF), the Afghan Ministry of Agriculture and Livestock (MOAL) and the Macaulay Institute. It also focuses on strengthening the capacity of MOAL for sustainability.

**Goal:** Sustainable and profitable alternative livelihoods for livestock-owning households and other rural stakeholders in areas of Afghanistan where poppies are grown.

**Purpose:** More efficient use of rainfed and irrigated arable land for the sustainable production of forage crops for livestock, which result in better animal health and higher outputs of milk and milk products, thereby reducing household vulnerability through the sale of more milk products.

**Outputs** will include:

- (1) Greater knowledge about current livelihoods, an estimate of the demand for milk products and an assessment of marketing chains for feedstuffs and milk products.
- (2) The potential of local land and labour resources to grow and harvest more good quality forages and seed will be quantified and increase in incomes from selling forage seeds estimated.
- (3) The additional milk produced by feeding balanced diets to healthy livestock will be quantified and increase in income from higher outputs of milk products estimated.
- (4) Tested improved methods of household and community-level processing of milk that add greater value to milk products.
- (5) Assessment by communities of the alternative technologies and estimation of the potential impact of the technologies on household incomes.
- (6) Stakeholders knowledgeable about and trained in the use and impact of the alternative technologies, field days and technical reports.

**Activities:** The project has six activities:

- (1) Community selection, participatory workshops and marketing studies
- (2) Enhancing production and use of sown forages
- (3) Increasing milk yields from healthy livestock fed on locally-available feeds
- (4) Community-based milk processing and marketing.
- (5) Monitoring impact of technologies on livelihoods
- (6) Knowledge transfer and capacity building of collaborating institutions.

**Approach:** The project seeks ways to alter existing feed and milk production and milk processing practices with the full involvement of the communities in the target areas. This involves:

- (1) Participatory workshops to identify current practices, constraints and solutions,
- (2) Testing of the alternative practices with farmers' and women's involvement, and
- (3) Monitoring the benefits from applying the alternative practices and participatory involvement in assessing the impact on household incomes and livelihoods.

## SECTION C: BACKGROUND/PURPOSE

### 11. Background / Literature Review

Opium poppies were grown on about 80,000 ha in Afghanistan in 2003, earning producers an estimated \$1 billion.<sup>1</sup> Once partially refined and transported to the borders of the country, the value of the illicit heroin had risen to \$2.3 billion, equivalent to about 50% of the GDP of Afghanistan in 2003. In that year about 264,000 families cultivated opium poppies and an estimated 20 – 30% of the rural population was dependent to a variable degree on the income generated, many of them from working in the poppy fields. The heroin produced accounted for about 70% of global production.

Farmers grow opium poppies since they earn such a high income, averaging \$3,900 per family from 0.3 ha in 2003, about 30 times higher than that from an irrigated wheat crop. However, this differential varies considerably from one part of the country to the other and with the season. Two examples illustrate that the reasons for poppy growing are far more complex than merely the total earnings potential.<sup>2</sup> First, due to its high labour needs, estimated at about 350 labour days annually per ha, the crop is a significant provider of work in the poorest rural areas. Second, the earnings of farmers also depend on whether they are landowners or sharecroppers, with the later receiving perhaps a fifth of the income from the sale of the crop compared to the landowner. When there is such widespread rural poverty, it is clear why the growing of poppies is the only way the most vulnerable members in the community can make a livelihood. Often they find themselves in serious debt and are therefore trapped by middlemen into growing another crop.

Despite the difficulty of matching the earnings potential of poppies, alternative livelihoods have to be found, even if the process is slow. One option is for livestock-owning households to apply improved practices to increase the production of milk and milk products which leaves a larger surplus for sale. This, in turn, generates additional income for the families, but without necessarily increasing the requirements for land, water and labour. The additional milk would be produced by offering lactating animals nutritionally-balanced feeds produced on the farms<sup>3</sup>, and by ensuring that the animals are free of diseases and properly housed. The ranges are a complementary source of feed but increasing the contribution of the ranges is difficult because of overgrazing, open access and particularly seasonality; however its contribution will be factored in while designing feeding strategies. The milk produced would be processed into products which would be free of pathogens which cause diseases in consumers. Traditional methods of processing milk would be improved. If there were a good demand for milk products, community-based collection and processing units would be established with the support of a credit programme. A project focusing on this scenario would contribute to the general knowledge base regarding viable alternative livelihood options to poppy growing and include a substantial capacity building component for the project stakeholders.

<sup>1</sup> UNODC (United Nations Office of Drug and Crime) 2003. Afghanistan Opium Survey 2003. UNODC Office Kabul and Vienna.

<sup>2</sup> Mansfield, D. 2002. The Economic Superiority of Illicit Drug Production: Myth and Reality – Opium Poppy Cultivation in Afghanistan. International Conference on Alternative Development in Drug Control and Cooperation, Feldafing.

<sup>3</sup> A recent report showed that in the districts sampled in Afghanistan where there is surplus land, part of it could be used to grow forage crops. Even when there is only limited surplus land or labour constrains, better varieties, cultural and harvesting practices can be applied to increase crop yields. (See E.F. Thomson, T. Barker and J. Mueller. 2003. Drought, livestock losses and the potential for feed production from arable land in Afghanistan: A case study in 183 villages with mixed crop/livestock production systems. Integrated Natural Resource Management Technical Research Report Series No. 2, ICARDA, Aleppo, Syria.)

This proposal presents the activities of a project that would contribute to the goal and super-goal of the RALF programme. It applies field research that involves farmers and other beneficiaries using a participatory approach, includes a mechanism for transferring the results of the research to other beneficiaries, and presents ideas for scaling up successful research results to a broader group. As the focus of the project is to improve and adapt existing technologies, the changes should be socially and culturally acceptable. Any new forage species that are introduced would be screened for adaptation to the local agro-climatic conditions.<sup>4</sup>

Project activities are planned in the north-east of Afghanistan (Baghlan Province) which accounted for about 16% of the total area of poppies cultivated in 2003 (UNODC, 2003), and there are already indications that a larger area will be grown in 2004.<sup>5</sup> Although poppy growing is still marginal in Baghlan Province, it is selected as the target area since it is important to find alternative livelihoods before the cultivation of poppies on a wide scale becomes entrenched.

AKF, the main collaborating partner in the proposed project, has significant programs using a community approach. Officials at the Afghan Ministry of Agriculture and Livestock (MOAL) will benefit from the training activities and capacity building. The third partner in the proposed project is the Macaulay Institute which has a wealth of expertise relevant to the project, including livestock nutrition, natural resource management, grazing systems and livestock marketing. The project would build on, and add value to, previous research work and would include capacity building activities for collaborating government officials and NGOs. The proposed project complements the activities of a parallel project on marketing that is being proposed by the Macaulay Institute (UK) for funding from the RALF programme.

## **12. Project Goal**

Sustainable and profitable alternative livelihoods for livestock-owning households and other rural stakeholders in areas of Afghanistan where poppies are grown.

## **13. Project Purpose**

More efficient use of rainfed and irrigated arable land for the sustainable production of forage crops for livestock, which result in better animal health and higher outputs of milk and milk products, thereby reducing household vulnerability through the sale of more milk products.

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<sup>4</sup> FAO conducted a series of forage evaluation trials in Afghanistan during the late 1990s. (see reference below.)

<sup>5</sup> UNODC (United Nations Office of Drug and Crime) 2004. Afghanistan: farmers' intentions survey 2003/04. UNODC Office Kabul and Vienna.

## SECTION D: OUTPUTS/UPTAKE PATHWAYS

### 14. Outputs

**Output 1:** Knowledge generated about the current livelihoods including both agricultural and non agricultural activities and income, the demand for milk products estimated and marketing chains for feedstuffs and milk products assessed.

**Output 2:** Potential of local land and labour resources to grow and harvest more good quality forages and seed quantified, and increased incomes from selling forage seeds estimated.

**Output 3:** Additional milk produced by feeding balanced diets to healthy livestock quantified, and better income from higher outputs of milk products estimated.

**Output 4:** Improved methods of household and community-level processing of milk tested that add greater value to milk products and result in higher incomes.

**Output 5:** Communities assessing the alternative technologies and estimating the potential impact of the technologies on household incomes.

**Output 6:** Stakeholders knowledgeable about and trained in the use and impact of the alternative technologies, field days held and technical reports prepared.

### 15. Target Institutions

The target institutions of the project are the following:

- Representatives of community organisations in the project target areas;
- Institutions collaborating in the project;
- Local and international NGOs working on related topics in Afghanistan;
- MOAL (Directorates of Animal Husbandry, Health (include the district Veterinary Field Units), Extension).

The following collaborating institution received drafts of the project proposal and returned comments which were incorporated in the final version:

- The Aga Khan Foundation
- The Macaulay Institute
- MOAL

### 16. Target Areas and Stakeholders

The target area is spread over Baghlan Province in north-west Afghanistan, since it has a rapidly expanding poppy industry and a high potential for livestock production and the marketing of livestock products. Efforts are needed now to test alternative livelihoods to poppy growing and thereby slow the spread of poppies to new areas. AKF also has community development projects in this province.

The main stakeholder groups involved in, or affected by, the project are:

- Households in the communities and officials participating in the project;
- Sharecroppers who are often the most vulnerable social group since they are frequently locked into poppy production because of their indebtedness and there are no other such lucrative ways to earn a livelihood;
- Women and school children who are exploited as unpaid labour to tend the poppy crops;
- Users of opium / heroin in Afghanistan, neighbouring countries and the West would benefit from the reduced, and ultimately the elimination of, poppy growing;
- Local entrepreneurs;
- Officials in local and international NGOs, MOAL and Afghan universities.

## 17. Uptake Pathways

The uptake of the project outputs by the target institutions will be facilitated by involving stakeholders in the project's activities in the following ways:

- Participation in workshops and training courses;
- Technical reports that outline the methodologies applied and which are distributed to NGOs, MOAL officials and university academic staff and students;
- Field days and possibly radio programs;
- Recommendations to government advisors to propose a policy environment that enables communities to implement the income generating, alternative technologies that are tested and verified by the project.

## 18. Expected Impact: Livelihoods and poverty of current poppy growers

The project outputs will contribute to poverty elimination and alternative livelihoods since household income will increase in a sustainable manner due to the:

- More efficient use of scarce arable land resources to produce additional feeds and seeds;
- More productive livestock resulting from the better feeding and health management;
- Higher outputs and sales of value-added milk products in a marketing environment that results in producers receiving a high proportion of the retail price.

The overall impact of the project will be alternative livelihoods to poppy growing, through the adoption of better feed and milk production practices applied to healthy and well managed livestock, more efficient processing of milk products and better marketing systems that result in increased household income in a sample of communities. The introduction of less labour demanding methods of milk processing would ease the burden on women who are responsible for such work. The inclusion of MOAL in the project will be key to securing the long-term sustainability of the improvements, particularly with respect to proposed new policies and strategies.

Through its training courses, the project will have institutional impact at the level of the local NGOs and the MOAL. At the university level the impact of the project will be through the inclusion of the project methodology in the teaching curriculum.

During the second year of the project alternative forage production practices and better feeding and health management practices of livestock will start to spread beyond the original group of communities involved in the project. A positive impact on the incomes of the households participating in the project activities will be measurable during third year of the project

## 19. Monitoring and Evaluation

Monitoring to assess progress of the project has been build into the project design through the implementation of Activity 1.1 which will generate baseline information on the:

- Current livelihoods in the communities including both agricultural and non agricultural activities and income and use of the natural resources and livestock;
- Traditional and improved production practices used to grow forages, feed and manage lactating livestock, process the milk and market the milk products;
- Income generated by the sale of milk products.

In addition, the quantities and prices of inputs and outputs from the activities related to milk production and processing in the sample of households will be monitored at three monthly intervals by enumerators that will be supervised by the collaborating institutions.

Dairy production is a labour intensive activity and requires nearly full week dedication to keep steady income. It also requires intensive production of fodder during the cropping season, both

activities are expected to increase if milk production becomes a substantial source of farmers' income. To measure changes the production of forages, milk and labour utilization will be carefully monitored among participant farmers. Key indicators of change will include:

- Increased use of family labour in forage and livestock production
- Quantification of extra labour
- Quantification of land used for forage production
- Quantification of increased milk production

Under the supervision of the Project Coordinator, staff based in the communities will be trained to collect, store and report on a regular basis the information needed to monitor the progress of the project. Activity 5.1 will use the quantitative and qualitative information collected during the implementation of the project activities to estimate the likely impact of the alternative livelihoods on household income. Actual and potential changes in production methods and livelihood indicators other than income that are sustained over time will be identified.

Periodic technical reports will document the achievements of the project activities. Whenever possible, these will be translated into the main local language.

Using the information collected, the annual meeting of the projects involved in the RALF program will provide an opportunity to evaluate the progress of the project and, if desirable, redesign the project activities.

## 20. Appraisal Issues

The key aspects of the appraisal of the current situation regarding poppy cultivation are:

1. Technical: Compared to many food and cash crops which are often irrigated, irrigated poppies are relatively undemanding in their water requirements. This is significant in many areas of Afghanistan which have not yet fully recovered from the worst drought for half a century.
2. Environmental (beneficial, harmful, neutral): Because they are so lucrative, poppies tend to displace crops such as wheat on the more marginal and sloping land which exacerbates the risks of soil erosion.
3. Economic: In mid-2003 the earnings from a hectare of poppies were some 30<sup>6</sup> times higher than from a hectare of irrigated wheat, making the growing of the crop extremely attractive despite the risks involved. However, this earnings ratio may have narrowed, especially in the north where UNODC reports that overproduction reduced the price to \$120/kg resin from an average of \$283/kg in November 2003.
4. Social (including gender): 20 – 30% of the rural population of Afghanistan are said to be at least partially dependent on the growing of opium poppies. This is related to the high price of the opium resin harvested and because each hectare is said to require annually 350 person days of labour from sowing to harvest<sup>7</sup>. However, wages of labourers vary considerably and women and school children often provide unpaid labour to tend the crops, adding to the burdens on women and limiting the knowledge development of the children.

There are no obvious adverse effects of the alternative technologies being proposed on the wellbeing of any social group or stakeholder group.

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<sup>6</sup> The RALF background materials shows one third of this value.

<sup>7</sup> Wheat is estimated to need 41 labour days per ha. (See Mansfield, 2002, cited above.)

## SECTION E: ACTIVITIES

### 20. Activities

#### **Activity 1: Community selection, participatory workshops and marketing studies**

**Activity 1.1** (1<sup>st</sup> month of project implementation): Select study communities in the agreed target areas in a three stage process:

- Convene two-day workshop for major stakeholders to select districts and communities from among the communities involved in the activities of AKF; collect and review existing secondary data from target areas and data about the communities collected by AKF.
- Visit 8 – 9 of the communities selected (one day per community); hold participatory workshops to define the importance of livestock in household livelihood strategies, local vulnerabilities and priorities, and the natural resource base.
- Based on the outputs of the workshops, select 5 – 6 communities for involvement in the project activities.

The following attributes will be taken into account when selecting the communities:

- o Representative of the biophysical and socio-economic spectrum in the target areas;
- o Both rainfed and irrigated farming are practised, forage crops being grown and fallow land with reasonable soil depth is available and accessible to grow forage crops;
- o Livestock are an important source of household income;
- o Farmers who are willing to participate in the project activities have the land, livestock, labour and other resources needed for simple applied research trials;
- o Study area and the communities are accessible by vehicle for much of the year;
- o Opium poppies are grown in the area.

**Activity 1.2** (2<sup>nd</sup> month of project implementation): Hold participatory workshops in the selected communities to collect further baseline information emphasizing on comprehensive livelihood analysis encompassing both agricultural and non agricultural activities and income, women's roles, not only in livestock and processing of products but also in marketing and control of income and involvement of women and children in poppy production to better understand pathways for people moving out of poppy production. The workshops will serve also to explain the project approach, identify, select and agree on the project activities, and select households to be involved in the field activities. Collect information on feeding cycles, seasonal feed deficits, current forage production and harvesting practices, constraints to expanding the areas of forages sown, local milk production and processing practices, feeding and health constraints and needs. An investigation will be conducted with recommendations about the rehabilitation of the cotton industry and a feasibility study will be made about building on the previous milk processing industry in Baghlan. This information will serve to define a strategy for collection centres to be established.

**Activity 1.3** (2<sup>nd</sup> month of project implementation and then repeat every three months): This activity will be combined with the one included in the project proposed by the Macaulay Institute. The information on livelihoods, women's roles and women and children involvement collected in participatory workshops will be validated through a checklist of key issues. Community and district-level market surveys to establish the demand, seasonal availability and trade in milk and milk products and the farm-gate, wholesale, and retail prices and the quality (including health aspects) of these commodities. An exploratory study on opportunities for marketing outside these communities will also be conducted to take initial steps to link the producers with urban consumers through processors in the target communities. The latter will be done to fill knowledge gaps regarding unknowns about of milk production, processing and marketing. One person in each community under the supervision of AKF and a district officer of

the MOAL will be trained to collect the market data every three months, use spreadsheets, enter the data in a database and prepare simple summaries of the data. They will also collect similar information concerning different types of feedstuffs (fresh forages, hays, straws, grains, by-products).

### **Activity 2: Enhancing production and use of sown forages**

Activity 2 examines ways to improve the supply of feed using the local land and water resources. It has several sub-components that involve a sub-sample of households selected for the trials with forage crops. It assumes that small areas of irrigated land are already used to grow forage crops and that yields increase when using better varieties and cultural practices. (Expanding the area of irrigated forage crops is not possible since there would be competition with the use of the land to grow staple food and cash crops.) It is assumed that there is some fallow land with reasonable quality and accessibility to allow the expansion of rainfed forage crop production.<sup>8</sup> Thus, the activities here would not result in increased pressures on existing but scarce water resources. The benefits of allocating land for forage production in scarce and expensive land will be checked based on different possibilities including the production of fodder as a commodity. The ranges are a complementary source of feed but its contribution to the diet is difficult to increase because of more complex issues involving overgrazing, open access and seasonality. However this contribution will be factored in to guarantee low cost diets.

**Activity 2.1** (expected start-up in August/September 2004): Among a sub-sample of households, select fields growing different irrigated and rainfed forage crops and prior to harvesting collect and sun-dry samples. Analyse samples at ICARDA to determine chemical composition. Interview farmers about the practices used to grow and harvest the crops, input costs, input prices and the trade in these forages. Convene a participatory workshop to review the results and plan the activities for the 2<sup>nd</sup> and 3<sup>rd</sup> year of the project. For example, discuss how the agronomic and harvesting practices applied to these crops might be changed, depending on the yield and other constraints identified at the workshop. Include landraces and improved varieties of the locally grown forage crops (e.g. alfalfa, Persian and Egyptian clover, barley, common vetch) in the monitoring program. Identify a person in each community for training in sampling and recording methods to be applied in 2<sup>nd</sup> and 3<sup>rd</sup> years. If the traditional forage crops have not been sown when the first visits are made to the communities in May 2004 and if seed of improved varieties is available, sow small plots with these improved varieties. If seed of winter-hardy landraces or improved varieties of forage species (barley, vetch) is available, sow them in small plots in September 2004. (See Activity 2.2)

**Activity 2.2** (spring and autumn sowing period in 2<sup>nd</sup> and 3<sup>rd</sup> year): With assistance from scientists at ICARDA and elsewhere<sup>9</sup>, obtain seed of novel forage species (e.g. oats, forage sorghum, chickling, sainfoin, safflower – the seed of the later two species can be crushed to produce edible oil and the residue is a protein-rich feed) which have potential in the target areas. Evaluate the species using farms as replicates, sample crops at appropriate times for yield and chemical composition. Verify palatability of forage. In 3<sup>rd</sup> year increase plot sizes of promising novel forage species and take samples to determine yield and quality. If sufficient quantities are available, farmers to feed forages to lactating cows and record milk yield in before-and-after trials.

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<sup>8</sup>See earlier reference to Thomson et al., 2003.

<sup>9</sup>FAO evaluated forage crops (alfalfa, oats, Persian clover, forage sorghum, millet) for several years in Afghanistan but only a few of the trials were in Badakhstan (Bashir et al. undated. Importance and development activities for sown fodder crops in Afghanistan. Unpublished report. FAO, Project (AFG/96/007), Islamabad.) Seed of the most promising varieties would be requested from FAO or from the original seed companies.

**Activity 2.3** (in all years): In the fields and plots being monitored in Activities 2.1 and 2.2, allocate sufficient area for seed multiplication. Observe the crops for diseases and other yield constraints and, if necessary, identify pathogens at ICARDA HQ. Harvest mature crops, thresh and store seed. If areas are sufficient, harvest more seed and encourage farmers to sell seed to neighbours or in local markets to generate income and increase the overall seed supply. Purchase some of this seed and provide it to farmers in other communities who attended field days and wish to grow the crops. Introduce a mechanism to track the spread of the seeds and monitor the opinions of farmers who grow the different forage crops.

### **Activity 3: Higher milk yields from healthy livestock fed on locally-available feeds**

The justification for Activity 3 is that local landraces of livestock respond well to better nutrition, management and health care by producing more uncontaminated milk, higher growth rates and more offspring.

**Activity 3.1** (start in October 2004): At a participatory workshop (including women) design a program to improve the management and feeding of lactating cows. As successfully applied in Tajikistan, use before-and-after trials involving the crossing of treatments to assess the additional milk yield of healthy and well managed cows fed balanced diets, largely based on locally produced forages. Cows used in trial to be screened for diseases (e.g. the zoonoses brucellosis and bovine TB, internal parasites, etc.) endemic in the target area. Staff from the district Veterinary Field Units to implement and monitor the animal health program. Send serum and other samples to the Central Vet Lab in Kabul for analysis. Monitor inputs and outputs and costs and benefits during the trials. Hold follow-up workshops for farmers and women to discuss the results and plan further trials and assess the importance of sheep and goats as suppliers of milk and milk products.

### **Activity 4: Community-based milk processing and marketing**

**Activity 4.1** (start in June 2004): Hold participatory workshops for men and women to document local milk processing practices, identify needs and constraints. Identify suitable technologies to improve the collection and processing of milk at the household level, improve hygiene and lower labour requirements.

**Activity 4.2** (start autumn of 1<sup>st</sup> year): Test at the household level alternative methods of processing milk, monitor milk and milk products for contamination during collection, processing, handling, transporting and marketing and for chemical composition. Screen animals for zoonoses (TB and brucellosis) and if appropriate, test FAO-proposed simple method to preserve milk. Subject to a feasibility study, establish a low cost, household-based milk processing unit to serve the community. Equip the unit to pasteurise milk, remove the fat and press the cheese.

**Activity 4.3** (start in 2<sup>nd</sup> year): Establish community-based milk collection and processing units with the support of a credit scheme. (This activity is conditional on there being sufficient demand for milk products (Activity 1.3) and on securing additional funding starting in 2005.

### **Activity 5: Monitoring impact of technologies on livelihoods**

The monitoring activities that are an integral part of Activities 1 – 4 provide the inputs for the impact assessment activity.

**Activity 5.1** (2<sup>nd</sup> and 3<sup>rd</sup> year): At participatory workshops, estimate the likely impact of applying the technology on labour demands, incomes and livelihoods and assess the adoption potential and the risks of applying the technologies.

### **Activity 6: Knowledge transfer and capacity building**

**Activity 6.1:** Offer training courses for different stakeholders (community-level advisors, MOAL officials, local entrepreneurs, NGO staff, farmers, widows) to use the alternative technologies. On-the-job training of local staff is essential to enable them to conduct most of the routine monitoring of the project activities in 2<sup>nd</sup> and 3<sup>rd</sup> years.

**Activity 6.2:** Organise field days about the alternative technologies for the stakeholder groups to demonstrate the technologies being tested and the approaches being used.

**Activity 6.3:** Prepare occasional technical reports about the different activities for distribution to stakeholders and at the end of 3<sup>rd</sup> year, hold wrap-up workshop for stakeholders.

Note: Besides active training of MOAL people in different technologies associated with activities 2-4, some MOAL budget and training under ICARDA's budget will be also used to invite MOAL policy people to interact and discuss project matters to begin to identify areas where policies and strategies could play a role.

## **21. Implementation and Management**

The project Principal Investigator (based at ICARDA HQ in Aleppo, Syria) will have overall responsibility for the project and a part-time in-country-based Project Coordinator (PC) will be responsible for implementing and technical reporting of the project. An Afghan graduate attached to one of the collaborating institutions will be trained to supervise and monitor the day-to-day running of the project activities at the community level. The collaborating institutions, which will have their own field activities in the communities selected, will second one of their employees to assist the Afghan supervisor.

On specific technical and socio-economic issues, the PC will be supported by ICARDA scientists with expertise in small ruminant sciences, milk processing technology, forage germplasm evaluation / production / utilisation, and socio-economics. AKF will provide expertise to complement that from ICARDA, such as in livelihoods approaches, village organisations, micro-enterprise studies including credit schemes, and project monitoring and evaluation. ICARDA will contract international consultants to take responsibility for specific activities of the project and the Macaulay Institute will provide expertise in marketing.

Officials of the collaborating institutions will be trained to collect data at the community level, to enter it on spreadsheets, and to make summaries for use in technical reports. Backup copies of all the data will be stored in the ICARDA office in Kabul.

If a second RALF-funded project starts in early 2005, the inputs of the PC will be reduced in the second and again in the third year of the first project, particularly as locally trained staff will be increasingly able to undertake the routine monitoring of the field activities and recording results.

The PC will be responsible for technical reporting of the project. Staff at the ICARDA office in Kabul will provide administrative and financial backstopping and the Finance Department at ICARDA HQ will be responsible for financial control.

The number of households, fields and livestock in each community involved in the respective project activities will be sufficient to satisfy basic statistical needs but the number of communities in which the activities are replicated will depend on the resources available to the project.

## Attachment 1: Logical Framework

<b>RALF Project Number</b>	<b>RALF01-11</b>
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<b>Project Title</b>	Improved rural incomes from better forage production and sales of milk products
<b>Lead implementing institution</b>	International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria

<b>Narrative Summary</b>	<b>Objectively Verifiable Indicators</b>	<b>Means of Verification</b>	<b>Assumptions and Risks</b>
<b>Goal:</b> Sustainable and profitable alternative livelihoods targeted at livestock owning households and other rural stakeholders in areas of Afghanistan where poppies are grown	At project completion the sustain-ability and profitability of improved local technologies assessed in five communities as compared with the profitability of poppy growing	Final project report and reports of collaborating institutions; annual RALF reports to DFID	Poppy eradication measures are not applied in the study communities
<b>Purpose:</b> More efficient use of rainfed and irrigated arable land for the sustainable production of forage crops for livestock, which result in higher outputs of milk and milk products and better household incomes from the sale of surplus milk products	At project completion the following achievements verified in each of five communities: 1. More efficient use of arable land 2. Higher outputs of quality forage 3. Forage seeds being sold 4. Healthy cows producing more milk for processing 5. Better milk processing methods tested in each community 6. Higher incomes from the sale of surplus milk products	Final project report and reports of collaborating institutions; annual RALF reports to DFID	At the first stakeholder meeting a final decision will be taken regarding the number of communities that the project will work in.
<b>Outputs:</b>			
1. Knowledge generated about the current livelihoods, the demand for milk products estimated and marketing chains for feedstuffs and milk products assessed	Characteristics of the livelihoods of households with and without poppy cultivation identified and compared in five communities	Findings reported in quarterly, annual and final reports	Demand for milk products exists even if trading in milk products very limited due to poor availability of milk or lack of buying power in communities
2. Potential of local land and labour resources to grow and harvest more good quality forages and seed quantified, and increase in incomes from selling forage seeds estimated	Higher production of good quality forage by 4 – 5 households in each community and in 4 – 5 households increased earnings from the sale of forage seed	Findings of community level, participatory impact assessments reported in quarterly, annual and final reports	Shortages of land and/or labour results in field activities being modified with approval of the RALF program manager

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Assumptions and Risks
3. Additional milk produced by feeding balanced diets to healthy livestock quantified, and better income from higher outputs of milk products estimated	Higher production of good quality milk from the cows belonging to 4 – 5 households in each community, with estimates of the additional income generated	Findings of community level, participatory impact assessments reported in quarterly, annual and final reports	Genetic potential of cows so low that improvement in milk yield from better feeding, health care and management marginal and therefore not justified.
4. Improved methods of household and community-level processing of milk tested that add greater value to milk products and result in higher incomes	More efficient methods to process milk in 4 – 5 households in each community and measurable improvements in the hygienic quality of the products	Findings of community level, participatory impact assessments reported in quarterly, annual and final reports	At the annual technical meeting of all the RALF projects the program of activities might be modified
5. Communities assessing the alternative technologies and estimating the potential impact of the technologies on household incomes	Participatory workshops held in each of the five communities	Findings of community level, participatory impact assessments reported in quarterly, annual and final reports	At the annual technical meeting of all the RALF projects the program of activities might be modified
6. Stakeholders knowledgeable about and trained in the use and impact of the alternative technologies, field days held and technical reports prepared	Training courses and field days held and technical reports distributed to stakeholders	Assessments of the effectiveness of the field days and training activities reported in quarterly, annual and final report	At the annual technical meeting of the RALF projects the program of activities might be modified
<b>Activities:</b>			
1.1 Stakeholder workshop to select districts and communities in target areas	Stakeholder workshop held in target area in 1 <sup>st</sup> month after project start; participatory workshops held in 8 – 9 communities	Stakeholders each agree on selection of communities and districts; workshop and 1 <sup>st</sup> quarterly reports	Project coordinator at post on 1 May 2004, planned elections in June do not delay start-up; enough communities involved in AKF program meet selection criteria listed under Activity 1.1.
1.2 Participatory workshop in selected communities to collect information on livelihoods, agree on project activities and select cluster of households for field activities	Participatory workshops held in five communities in 2 <sup>nd</sup> month of project; at least 15 farmers identified in each community to participate in field activities	Workshop participants understand purpose of project and of the field activities; workshop and 1 <sup>st</sup> quarterly reports	Large enough sample of farmers willing to participate in respective field activities have enough land, animals and labour to meet statistical criteria

<b>Narrative Summary</b>	<b>Objectively Verifiable Indicators</b>	<b>Means of Verification</b>	<b>Assumptions and Risks</b>
1.3 Conduct market surveys at community and district level to establish demand, prices, trade and availability of milk and milk products	Key informant meetings held in five communities and 3 – 4 district markets (2 <sup>nd</sup> month of project); enumerators trained and collecting marketing data every three months thereafter	Farmers better aware of marketing issues and ways to target production to increase incomes; technical and quarterly reports; database of prices, demand and product availability accessible to farmers and other stakeholders	Surplus livestock products being sold and disposable income of families sufficient to result in purchase of livestock products
2.1 Survey local forage crops, test better varieties and alternative cultural and harvesting practices, multiply seeds, monitor farmers' opinions and trade and prices of forages and feedstuffs	Each year five additional farmers selected per community for field work, own crops monitored; trials comparing local and improved genetic material conducted and seeds multiplied; monitoring of farmers' opinions in progress and data on trade in forages and feedstuffs collected	Yield improvements of forage crops, better availability of hay for winter, more seed harvested to give higher incomes reported in annual and final reports	Sufficient farmers growing the crops, and seed of improved varieties available and procured in time for sowing in summer 2004. Low or poorly distributed rainfall would limit growth of rainfed crops
2.2 Evaluate novel forage species, multiply seed, expand areas, monitor farmers' opinions	Trials conducted on five farms each year in each community; sufficient seed produced to sell to farmers to do their own evaluations	Performance of adapted novel forage species and amount of seed multiplied reported in quarterly, annual and final reports	Sufficient seed of novel forage species available and procured in time for sowing in summer 2005
2.3 Multiply and sell surplus seed, monitor spread of seed to other communities	By 3 <sup>rd</sup> year total of 15 –20 farmers growing seed crops, surplus seed being sold and follow-up surveys conducted to track destination and use of seed sold to other farmers	Amounts of seed multiplied and sold measured and reported in quarterly, annual and final reports	Areas of forages grown by farmers sufficient for part of crop to be set aside for seed production
3.1 Participatory workshop to record current feeding practices and problems; design / implement feeding and health program for lactating cows, monitor trade in milk and prices	Participatory workshop held in 1 <sup>st</sup> year in each community; in 2 <sup>nd</sup> and 3 <sup>rd</sup> year feeding trials implemented with cows belonging to 4 – 5 farmers in each community	Workshop report; higher yields of good quality milk from healthy cows reported in quarterly, annual and final reports	Timing of activity may change to ensure sufficient cows in early lactation available for trials. Feeding trials with goats/sheep may be started in 2 <sup>nd</sup> year if marked responses in output (eg better fertility) predicted due to better nutrition and health
4.1 Hold participatory workshop to document local milk processing practices, identify needs and constraints	Workshop (one for men, one for women) held in 1 <sup>st</sup> quarter after project start up. Role of women in households identified	Locally used methods to process milk, constraints and needs reported.	Separate workshops held for women as they are largely responsible for processing the milk

<b>Narrative Summary</b>	<b>Objectively Verifiable Indicators</b>	<b>Means of Verification</b>	<b>Assumptions and Risks</b>
4.2 Test alternative household-level methods of processing milk, test milk for contamination and quality, establish small household level processing unit	4-5 households in each community applying alternative methods of processing milk; data on lower labour demands on women and products of better hygienic quality	Methods to lower contamination of milk products and labour needs for processing reported in quarterly, annual and final reports	Activities may be limited to the use of cows milk if milking of goats and sheep little or not practised
4.3 Establish community-based milk collection and processing units supported by a credit scheme, monitor cost/benefits of such units	In 3 <sup>rd</sup> year a community-based milk collection and processing unit established in each community; cost/benefit of units documented	Results from collection and processing units reported in quarterly, annual and final reports	Subject to outcome of Activities 1.3 and 4.1 and on securing additional funding from the RALF at the second CFP
5.1 Using information collected, hold participatory workshop to estimate likely impact of alternative technologies on incomes and livelihoods	At end of 2 <sup>nd</sup> and 3 <sup>rd</sup> year data from monitoring of field activities summarised; workshops held to assess the likely impact of improved technologies on household incomes and livelihoods	Likely impact of improved technologies described in workshop report and in quarterly, annual and final reports	Duration of project too short to generate information needed to show impact
6.1 Training courses for different stakeholders	Three training courses held: <ul style="list-style-type: none"> <li>- In 2<sup>nd</sup> year on implementing and evaluating on-farm forage trials and seed production</li> <li>- In 3<sup>rd</sup> year (for men and women) feeding lactating animals, milk processing</li> <li>- In 3<sup>rd</sup> year impact assessment with farmer participation</li> </ul>	Trained staff working for AKF, MAOL supervising field work and recording and summarising results in 2 <sup>nd</sup> and 3 <sup>rd</sup> year; quarterly, annual and final reports	Whenever possible, training courses and field days will be organised together
6.2 Field days	Field days held as follows: <ul style="list-style-type: none"> <li>- In 2<sup>nd</sup> and 3<sup>rd</sup> year on forage crop and seed production and on feeding lactating cows</li> <li>- In 3<sup>rd</sup> year on milk processing</li> </ul>	Simple handouts prepared in local language; quarterly, annual and final reports, indicating numbers of participants at field days and subject of field days.	Whenever possible, training courses and field days will be organised together
6.3 Occasional technical publications and wrap-up workshop	Occasional publications prepared and wrap-up workshop held late in 3 <sup>rd</sup> year	Stakeholders in receipt of publications, workshop report	To save effort, periodic reports to ICARDA will contain chapters that can be printed as separate technical reports

## Attachment 2: Work plan: Activities and Milestones

RALF Project Number	RALF01-11
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<b>Project Title</b>	Improved rural incomes from better forage production and sales of milk products
<b>Lead implementing institution</b>	ICARDA

Project Year	Year 1												Year 2												Year 3											
Calendar Year	2004												2005												2006											
Calendar Month	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12				
Project Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8				
<b>Activities &amp; Milestones:</b>																																				
Activity 1: Baseline surveys/marketing	X	X			X			X			X				X			X		X			X				X			X		X				
<b>Milestones:</b>		X													X												X					X				
Activity 2: Forage trials		X			X	X					X	X					X										X	X			X					
<b>Milestones:</b>					X												X													X						
Activity 3: Milk production/feeding trials					X	X	X				X	X					X	X									X	X			X	X				
<b>Milestones:</b>						X						X					X										X				X					
Activity 4: Milk processing		X			X						X	X					X										X	X			X					
<b>Milestones:</b>					X							X					X										X			X						
Activity 5: Monitoring		X			X			X			X				X			X		X			X				X			X		X				
<b>Milestones:</b>																	X													X						
Activity 6: Knowledge transfer/reporting					X			X			X				X			X		X			X				X			X	X	X				
<b>Milestones:</b>															X												X				X	X				