

*Letter to the Editor***CONCEPT OF AGRICULTURE DEVELOPMENT IN LOGAR PROVINCE, AFGHANISTAN**BURIAN P.¹, MACEK R.², KREPL V.R.¹¹ *Institute of Tropics and Subtropics, Czech University of Life Sciences, Prague, Czech Republic*² *Ministry of Foreign Affairs Czech Republic, Prague, Czech Republic***Abstract**

Afghan province Logar is one of heavily war-impacted. Article summarizes findings on the current conditions and options for future sustainable agricultural development of the province. 80% of population is dependent on agriculture or services related to agriculture. Assessments identified main problems of agriculture population: lack of specific agriculture education, irrigation systems failures and poor linkage of farmers towards markets. Lack of the will and support of local authorities prevents investments into agricultural activities and consequently reduces interest of traders to connect province into national market.

Key words: Afghanistan, Logar province, agriculture, development, assistance, water, resource, farmers, reconstruction team, kuchi, migration, agribusiness

INTRODUCTION

Logar province was one of heavily war-impacted provinces. Information on the agricultural resources, capacities, practices and future solution options for sustainable province development, based on agriculture and food processing.

The Logar province got into focus of Czech Republic as it has been chosen for deployment of its Provincial Reconstruction Team (PRT). The main activities of such tool as the PRT must be structuralized according to the local conditions. The conditions from agricultural point of view and the opportunities for development in province are the main subject of following article.

MATERIALS AND METHODS

Information collected from 20th Feb 2009 until 31st Jan 2010, during series of field assessments carried out in five districts of province. Data complemented with data obtained from In-depth and structured interviews with official province representatives and shura representatives.

Province is facing lack of professional education, irrigation system failures and poor linkage of farmers with the market. The lack of will and institutional support prevents investments into necessary core activities and therefore reduces interest of traders to work with farmers and farmer organizations in the province.

Interpretation

The incapability of reach market and commercialize production is based on low trust in situation improvement and subsequent unwillingness to invest into market linkage establishment and storage facilities. The production data indicate opportunity to raise income from currently established production units with investments specifically targeted onto education, farmers' organization and storage capacities in border-side areas.

General conditions, geography and population of Logar province

The Logar province is situated 60 km southward from Capital of Afghanistan, Kabul (Figure 1). On the north Logar borders with Kabul province, on the east with Nangarhar province, on the south-east with Paktia province and on the west with Wardak and Ghazni provinces. It covers area of 395 square kilometers (RRERS, 2006) (area represents 0.7% of Afghanistan). Province itself is divided into six districts: Pole-Alam, Baraki Barak, Mohammad Agha, Khoshi, Azra, Kharwar and Charkh (Figure 2). The economic center is Pole-Alam district with the homonymous capital (UNAMA, 2008).

The climatic conditions of province shall be considered as severe, with significant temperature differences during all year. The minimal winter temperatures fall until -20°C during the winter and in opposition reach

Figure 1: Logar province localization (NAIS, 2008)



to 35°C during summer. The maximal and minimal temperatures vary according altitude of respective parts of province. The Main valley, where is located capital Pole-Alam is in 1900 meters above sea level, other districts are approximately 100 meters higher, with exception of Azra and Kharwar districts, which are significantly more elevated (2500 meters in Central valley) with mountain strip reaching up to 4000 meters (UNDSS, 2007).

Water resources are limited primary to Logar river (coming to province from west, than aiming northwards), with unstable flow regarding season and yearly renewed ice caps on surrounding mountains, which feed majority of province's water wells.

There is couple of national entities in Logar province. The most prominent are Pashtuns followed by Dari speaking Tajiks. The population of province is very

young, 50% of inhabitants is younger than 15, but only 9% of inhabitants reaches 50 years of age (Vyhnálek, 2004), . The Table 1 with population data and portion of rural population follows.

As the economic center of province can be considered district Pole-Alam, located center of province. Province is crossed by main asphalt road (Kabul-Gardez), which connects Pole-Alam with Kabul and has for local population great importance. Because there is no active industry in the province, part of economically active population travel for work to Kabul, neighboring provinces, Pakistan or Iran.

Tab. 1: Province population distribution (UNAMA, 2008)

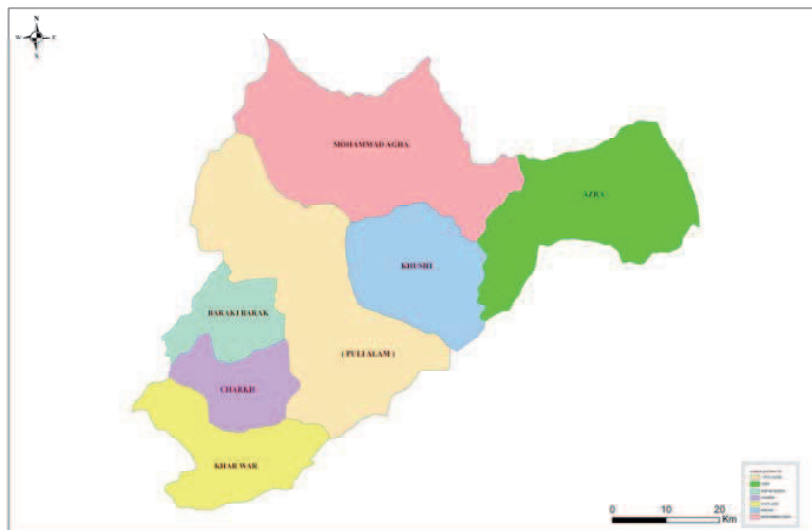
Male	160 200
Female	165 900
Total	326 100
City	7 700
Country	318 400

RESULTS AND DISCUSSION

Current situation in agriculture

In Logar province is majority of population (approximately 85%) dependent on agriculture, which serves mainly as the resource for family subsistence. The Directorate of Agriculture, Irrigation and Livestock of Logar province (DAIL) currently registers 52 cooperatives, which register about 4000 farmers, linked on some level into commercial agriculture market. The total number of unregistered and

Figure 2: Map of Logar districts (NAIS, 2008)



with part of their production). These farmers cannot become registered members of cooperatives, the access to loans and credit is difficult.

- Kuchi – migrating herdsmen, who travel between Afghanistan and Pakistan. Their wintering location is in “low country” Pakistan, for summer pasturage they travel to “high country” Afghanistan. Except migration, Kuchis trade various commodities on both sides of border.

Watercourses are vital for Logar farmers; therefore absolute majority of agricultural activities is concentrated around main watercourses or embouchures of functional karezes. Main system of water use is ineffective flood and furrow irrigation.

Only one third of agricultural land is irrigated; the rest of formerly cultivated land is no longer in use due to lack of irrigated water. Old water delivery systems are badly damaged because of war conflict and returnee farmer don't have enough motivation to invest to reconstruction of the irrigation system. There is a lack of water storage/catchment reservoirs in Logar province. Majority of water obtained during spring snow melting flows off very quickly from the province by stable river beds.

Afghanistan has been experiencing dry period due to extensive deforestation during last forty years and there is evident climate change in Afghanistan heading towards to landscape desiccation.

Long-term intensification of provincial agriculture is impossible without more efficient water use systems and reconstruction of existing karezes and irrigation channels.

Crop production concept

This segment of agriculture is the main source of livelihood for majority of population directly or in consequent services. The key crop is winter wheat, seasonally are grown various types of vegetables and integral part of crop rotation is production of corn for animal feeding.

To support modernization and intensification of crop production is clearly crucial for alimentary self-sufficiency of province and giving impulse to local agribusiness. In presence farmers are not sufficiently productive to attract interest of traders and consequently there are no investments into agricultural sector in the province.

According to structure of agricultural society in Logar, proceedings for modernization and intensification of sector must be systematic and if possible, applicable overall the province. For improvement of situation shall be used following instruments.

- Agricultural and related vocational education – Traditional schemes of agriculture in province are basi-

cally functional, but there is no reflection of actual agricultural trends and farming is not effective with simultaneous high time donation to work process. Income generated from such production is not capable to cover technological inputs and farmers become dependent on support from government and consequently international donors.

- Agricultural and Mechanical high school – Long term agricultural development and introduction of modern approach to agriculture and related fields is not possible without properly educated young generation.
- Increase of accessibility of light mechanization – There is insufficient amount of mechanization and technical equipment to ensure possibility of production intensification. The provision of such equipment via governmental rental service shall access necessary equipment for farmers.
- Support of agribusiness development – province is, with some insignificant exceptions, ignored by traders. Therefore is crucial to support local producers (mainly united in state-registered cooperatives) in penetration to national market.
- Support development (establishment) of clearly profiled production cooperatives (crop production, dairy production, honey processing and sericulture). Support shall have form of technical, management and marketing assistance connected with constant management and organizational advisory.
- Support activities and establishment of enterprises focused to local processing of crude agricultural crop directed to increasing of crop added value. The weakest side of Afghan agri-products is unequal standard of products and packing problems.
- Development and improvement of efficient irrigation systems – improvement will allow increasing of irrigated field extension in already irrigated areas with the same water needs.
- Support increase of storage capacity and post-harvest treatment improvement – agri-product storage capacity in province are undersized or absent, therefore is no possibility to store production to be sold later after season. This problem forces farmers to sell production immediately for extremely low prices.
- Establishment of micro-credit financial system. Majority of farmer don't have an access to loan. Availability of accessible micro-credits administered by community subsidiaries can accelerate establishment of small enterprises and empower individual responsibility.
- Support to DAIL of Logar province - its equipment with anti-corruption tools and organizational advisory will provide necessary improvement of bureaucratic proceedings, which are crucial for gaining funds from

national budget, necessary for systematic development of the province.

Orchard and vineyards development concept

The sector of perennial production systems shall be considered as functional in province, but the importance is not so high, as it shall be according to favorable conditions. The orchards in province produce mainly apples, almonds and apricots. The most important advantage of locally produced fruit is high content of sugar and pleasant sweetness about 20% or higher compared with neighboring countries due to relatively high temperature and dry environment. This attribute creates competitive advantage for fruit crop. The owners of orchards are usually members of cooperatives, therefore some income production exists. Although, there are various possible activities to be supported to develop further this promising branch of province’s agriculture. Activities to support are following.

- Agricultural and related vocational education – Traditional schemes of agriculture in province are basically functional, but there is no reflection of actual agricultural trends and farming is not effective with simultaneous high time donation to work process. Income generated from such production is not capable to cover technological inputs and farmers become dependent on support from government and consequently international donors. Orchard management improvement education shall be inevitable part of training courses for farmers.
- Increase orchard areas in relevant areas – In presence is main obstacle preventing development of orchards lack of accessible quality seedlings of fruit trees and its consequent high price.
- Establishment of fruit tree nurseries – quality of trees is given by system of seedling production.
- Development and improvement of efficient irrigation systems such as simple “low head bubbler irrigation” – will allow increasing orchard area in already irrigated areas with the same water needs.
- Storage capacity increase and post-harvest treatment improvement – storage capacities in province are undersized or absent, therefore is no possibility to store production to be sold later after season. This problem forces farmers to sell production immediately for extremely low prices.
- Support development (establishment) of clearly profiled production cooperatives (crop production, dairy production, honey processing and sericulture). Support shall have form of technical, management and marketing assistance connected with constant management and organizational advisory.

- Improvement of vineyard management – vines are not in presence pruned and pillars are not used.
- Support to DAIL of Logar province – its equipment with anti-corruption tools and organizational advisory will provide necessary improvement of bureaucratic proceedings, which are crucial for gaining funds from national budget, necessary for systematic development of the province.

Livestock development concept

Keeping of livestock is an integral part of Afghan agriculture. Livestock can be considered as “live cash” for farmers. Livestock can serve as finance deposit for creditor or farmers can easily sell livestock to obtain cash. The most common livestock are local breed of cattle, sheep, goats, donkeys and poultry.

More than 70% of livestock is owned by Kuchies. Kuchies are the most important livestock traders in Afghanistan. Prevalent livestock owned by Kuchis are sheep, goats and camels.

Settled farmers keep livestock for regular source of staple food and regular income for family. Settled farmers are marginally involved in the livestock trade, they are more involved in an animal product processing and trade. Prevalent livestock kept by settled farmers is dairy cattle, sheep, goat and poultry.

The most important components of livestock sector development are enumerated bellow:

- Capacity building and vocational trainings shall be foundation of livestock sector development until establishment of agriculture high school which will take over responsibility for agriculture education of new farmer generation. Logar farmers have been missing continual education for more than thirty years. Trainings shall be prepared as package of follow-up lectures intended to develop whole spectrum of farming and business skills. Occasional trainings focused to partial farming skills haven’t brought satisfactory results so far. Promising framework for continual education in Afghan society could be employment of “the best students” for establishment of so called Farmers Field School.
- Support of community based enterprises. Some of settled farmer communities have understood benefit of farmer association such as agriculture cooperative. There are five active dairy cooperatives in Logar province. They can serve as an exemplary example of functional farmers association and community owned enterprise. Cooperative structure is a cornerstone for development of small agriculture enterprises in livestock sector. There is couple of advantage which brings cooperative structure for its members. Apart

- from obvious benefits such as economic power or competitiveness only on the basis of agricultural cooperative is possible successful establishment of Farmers Field School as a framework for continual community education. Establishment of farmers cooperative and subsequently small and medium enterprises enable animal product processing in province which will lead to growing of added value of final product and increase farmers income.
- Dairy is promising agriculture sector in Logar province. Community based dairy cooperatives specialized in milk collection and dairy processing in Kabul dairy plant are relatively common in Logar province. Proximity of Kabul market from Logar province is probably the most important driving force for cattle farmers to join this dairy cooperative. Provision of infrastructure for existing milk collection centers and continual capacity building for cooperative members is the easiest way how to support this sort of community run enterprise.
 - Fodder preparation and forage conversation improvement is essential step to increase of livestock production. Due to lack of knowledge and irrigated land farmer use wheat straw as a staple feed for cattle during whole year. Australian variety of Alfa Alfa, Egyptian clover and corn are plants suitable for forage preparation in Afghanistan condition. Farmers shall be persuaded to use part of their land for above mentioned perennial plant cultivation. Other important task shall be improvement of forage nutrition value. Nowadays farmers use wheat straw and hay for winter feeding. Among suitable opportunities belong wheat straw urea treatment and introduction of basic ensilage techniques into forage processing.
 - Poultry and poultry product can be considered as staple food stuff for Afghanis. Almost each rural family in Afghanistan keeps some poultry. Prevalent farming technique is extensive back yard scavenger breeding system. Low productivity of this system isn't able to compete with strong import of poultry and poultry products from Pakistan or Iran. Transition of poultry farming from extensive system to semi-intensive or intensive one is the way how to supply domestic demand for poultry and poultry products.
 - Apiculture is traditional source of livelihood for some farmers. Beekeepers usually migrate from one location to another according flowerage season of different crop. Apiculture itself is important component of horticulture due to higher yield from bee-pollinated orchards compared with orchards without bee-pollination. Capacity building of bee keepers and support of establishment community owned bee products processing facilities is the cornerstone for intensification of this agriculture branch. Processing facility will standardize bee products, enable local branding of bee product and will strengthen locally produced bee products in Afghan market.
 - Sericulture is traditional agricultural branch in north-west Afghanistan. There is market demand for raw silk in Afghanistan and neighboring countries. Distinctive feature of sericulture is high labor intensity and low technical demand during production of raw silk. Due to this characteristic sericulture rehabilitation is included in development strategy of Ministry of Agriculture, Irrigation and Livestock. High unemployment rate in Logar province creates a space to support this traditional branch in Afghan economy.
 - Livestock market in Logar province shows the same feature such as crop market. The livestock trade is dominated by middlemen who buy livestock directly from farmer yard for the lowest possible price which doesn't reflect real market price. All efforts aimed to link-up livestock producers and final customers will help to increase farmer income. One of way how to connect producers with market is to establish animal marketplace facilities on the district level and persuade traders to visit this marketplace on regular basis.
 - Development of state administration – livestock production department and veterinary department. Animal Health development isn't possible without functional state veterinary administration. Main activities such as coordination, monitoring, surveillance and management of animal health on the level of province has to be executed by veterinary department. Governmental officers are missing proper knowledge, skills and facility necessary to apply it in praxis. Capacity building of governmental officers and establishment of suitable infrastructure for execution of this task is again the fundamentals of state administration development which will deliver needed service to its citizens.

Forestry development outline

In reality of provincial agriculture is forestry sector the marginal one. The extension of forest cover is approximately 10 hectares, with outlook for extension up to 13 hectares. But there are significant functions and benefits rising from forest cover, especially its landscaping feature (water management function), very important and beneficial for farmers operating in areas nearby to forest cover. The ecosystem balance function in terms of Logar province shall be considered mainly as a tool for extension of farmland and its protection.

CONCLUSION

Afghan society is changing. As the urban population is getting increasingly affluent, the afghan patriotism in consumer behavior is much stronger than in last 30 years. Citizens from Kabul and other urban areas are willing to pay about 20% of price more for afghan products in compare with foreign ones (usually from Pakistan and Iran). This situation gives great opportunity to producers settled in close distance from urban centers (as the Logar province) to gain greater share from local market. There are various tools to be implemented, except those named above. As one of such tools shall be agri-product branding. Creation of "label of origin" will be giving consumer simple direction to choose the right product. But this is only the top of the iceberg. The effort in support of agribusiness must be oriented towards strong organizations of producers, capable to compete with foreigners, support of education to bring needed specialists into branch and in formation of institutional support, mainly from local government.

The steps mentioned above have one final purpose: to organize in province strong agribusiness and via it to bring more funds into province's development. Even if it seems as enormous task, it shall be considered as the easiest way to promote Logar province, because none of other sectors (for example industry) does not have in province tradition and background.

Whole above depicted development concept results from the National Agriculture Development Strategy of Afghan Ministry of Agriculture, Irrigation and Livestock. It is important to take into an account that Afghanistan is complicated multinational culture. There are thirty four provinces in Afghanistan. Each province is controlled by province governor who is more or less dependent on central government. All provinces with different status of autonomy create very fragile state of

Afghanistan. Any development projects which do not respect a framework of National Agriculture Development Strategy support autonomy of provinces and therefore weaken central government. The common aim of all donors active in Afghanistan development shall be to pay attention to primary support central government and secondary provincial government. Only this approach will help to build Afghanistan as a strong and independent country.

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