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USAID-ASSISTED DEVELOPMENT IN THE  
HELMAND-ARGHANDAB VALLEY

Notes on Program Successes and Problems

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## NOTES ON PROGRAM SUCCESSES

Progress under the Helmand-Arghandab Valley Authority (HAVA) program has been disappointing and the benefits to date relative to costs leave something to be desired. Yet, it cannot be said that the program has not been successful -- certainly not when comparison is made with other similar large programs in Afghanistan.

Without question, there have been remarkable gains in the Valley. The basic infrastructure is now largely in place -- roads, dams, canals and diversions exist in what was formerly empty desert. A large number of farmers have been exposed to, and have demonstrated their willingness to adopt, farming practices which increase their production, their well-being and the well-being of the nation. The Valley has now been brought to a developmental stage where, with a well-thought-out program, effectively implemented and administered, future expenditures would yield quick and attractive returns. The benefits are not all in the future, however; they are clearly visible here and now. A few of the more obvious successes are cited below.

1. Approximately 13,000 hectares of waste desert land have been brought into cultivation in Nad-i-Ali and Marja over the past 15 years. During the last decade, yields of grain crops, cotton and fruits have increased dramatically in these areas. (See the attached table. No claim is made to a high degree of accuracy for the figures in the table, but it is believed that the values shown are close approximations to actual magnitudes.)

2. New, more direct canals, fed by the Arghandab and Kajakai reservoirs have made it possible to bring into production previously uncultivated land in the Shamalan, Babaji and Darweshan areas. It has been estimated that land use in the Shamalan alone has increased by nearly 60 percent since the construction of that canal in the 1950s. At the same time, there have been significant gains in the yield from each jorib for most of the crops grown in the area (again see table). Similar gains can be expected in other areas where new irrigation systems have been brought into use.

3. One of the original reasons of the Government of Afghanistan for the development of the Valley was to settle people on new land. The number of Afghans settled in the Valley as a direct result of HAVA activity number in the thousands. The Government Land and Settlement Division of HAVA reports that 4,410 families were settled on land between 1952 and 1972. Each settler is earning enough to support his household and most are earning something in excess of this.

4. Double-cropping has expanded rapidly in the last few years -- by two to three times over the 1964-70 period alone. This was made possible by the storage capacity of the two dams and by better distribution of water through the modern canal system, making water available throughout the year. This stands in contrast to the previous traditional irrigation system under which small diversion structures, requiring yearly -- or more frequent -- replacement, were employed in the Helmand River. Previously the supply of irrigation water ordinarily dried up by early summer as the river flow dwindled. While double-cropping is a growing practice among farmers in the Valley, it encompassed only about 13,500 hectares in the 1971-72 growing season. This potential has therefore only begun to be exploited and can be counted on to add materially to the future income of the farmers in the Valley. Experience will teach the best practices to be followed for the increased success of a double-cropping program and the introduction of better-adapted crop varieties will further increase production and farmer income.

5. There has been a very rapid adoption of high-yielding wheat varieties by Valley farmers. The first demonstration plots were established in 1967; by the summer of 1972, an estimated 40,000 hectares were planted to these varieties, amounting to almost half of all wheat planted in the region -- including that not directly under HAVA extension. In several project areas, 85-95 percent of wheat plantings are in high-yielding varieties.

6. As a consequence of their increased productivity, the farmers in the Valley have money. This general growth in wealth is one of the most striking features of the Region to visitors who return to this country after an extended period of absence. Throughout the duration of the 1970-71 drought when large parts of the country could produce little or nothing, the agriculture output of the HAVA region continued to grow. The output was well above the area's consumption demands; some of the surplus served to earn foreign exchange and some helped alleviate food shortages in other parts of Afghanistan.

7. Farm mechanization has developed rapidly. Since 1963, the number of tractors in the area increased from 13 to over 400. This has been made possible through the greater profits the farmers have realized via the new farm practices described above, and with the help of an effective farmer credit program which was developed in the Valley. Along with the increase in tractors has come the development in the towns of the area of a small but expanding private-sector tractor maintenance and repair industry.

8. The HAVA system of agricultural extension was instrumental in introducing the high-yielding varieties of wheat and in the distribution of fertilizer and the training of farmers to use it. Although the HAVA extension service has defects, it probably is still the most complete and efficient extension system in the country.

9. The Helmand-Arghandab Construction Unit (HACU), in cooperation with the HAVA Engineering Section, forms a very effective agricultural construction combination. They are capable of carrying out major operations in design, construction and quality control. HACU and HAVA make up a body of trained technicians from two different administrative systems that have developed a system of cooperative effort -- not an easy task in any bureaucratic system.

10. Another HAVA success, although only partial, is the development of a research and statistics section for the collection and analysis of, among other things, agricultural production.

11. Valley farmers increased their cotton plantings from 28,000 jeribs in 1972 to 58,000 in 1973. This year's harvest is expected to reach 11,000 tons of seed cotton, up from 3,500 tons last year. Besides increasing the income of the farmers in the Valley, this will make a nice contribution to the nation's vegetable oil production as well as the production of textiles and/or raw cotton exports.

These are a few of the more obvious successes in the Helmand-Arghandab Valley. But other views support the USAID contention that Valley activities have resulted in some important successes. The World Bank, a long-time critic of large-scale projects in Afghanistan, makes a notable concession in Current Economic Position and Prospects of Afghanistan (Vol. 1, February 1, 1972) where it is stated, "The U. S. invested heavily in the Helmand Valley ... with results that were discouraging until very recently." (p. 26) and that, "The Helmand Valley is undoubtedly enjoying prosperity compared to the recent past and to the adjacent drought areas." (p. 14).

Likewise, in evaluating agricultural performance under the Third Five-Year Plan, the Asian Development Bank's report, Planning Study of the Agricultural Sector of Afghanistan (Vol. 1, December 1971) states, "Overall national progress in increasing production has been too slow, barely keeping pace with population growth. Performance has been unsatisfactory for all agricultural and livestock sectors ... ." The report notes, however, that there are some local areas which are exceptions to this generalization, one of which is the Helmand-Arghandab Valley. Thus, "Progress in output per hectare is particularly noticeable in areas where special development agencies such as HAVA ... are operating." (p. 104).

An overriding consideration in the Asian Development Bank's approval of the Helmand Valley Road Project is the fact that agricultural output in the area has grown rapidly in the past and offers great potential for growth in the future.

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TABLE :    YIELDS IN MONS PER JERIB BY AREA, BY CROP  
COMPARISON 1963 WITH 1970<sup>a/</sup>

<u>Crop</u>	<u>Nadi Ali</u>		<u>Marja</u>		<u>Shamalan</u>		<u>Darweshan</u>		<u>Dund-Daman</u>		<u>Arghandab</u>	
	<u>1963</u>	<u>1970</u>	<u>1963</u>	<u>1970</u>	<u>1963</u>	<u>1970</u>	<u>1963</u>	<u>1970</u>	<u>1963</u>	<u>1970</u>	<u>1963</u>	<u>1970</u>
Wheat	7.3	61.5	18.0	52.1	41.1 <sup>b/</sup>	66.2	31.0 <sup>b/</sup>	41.7	71.5	34.7	41.3	57.9
Barley	5.4	--	20.0	--	--	81.8	--	22.0	49.1	46.5	31.4	31.2
Corn	--	95.8	--	55.5	52.7	83.0	26.6	79.0	16.0	52.9	40.3	64.0
Rice	9.6	--	--	--	--	--	--	--	--	--	--	173.2
Cotton	6.3	37.5	11.3	36.2	23.1	55.6	8.0	39.3	--	--	20.0	--
Mung Beans	5.2	33.5	10.2	21.1	18.1	22.1	11.9	43.1	--	40.3	15.9	32.4
Grapes	14.8	355.4	39.6	229.0	171.0	641.0	140.5	437.8	51.5	226.3	50.9	283.4
Pomegranates	33.3	344.2	60.0	202.2	79.0	623.8	--	--	36.0	350.6	119.9	371.7
Apples	--	--	--	--	--	--	--	--	13.3	236.6	36.1	188.7
Apricots	--	--	100.0	33.8	100.0	462.1	--	--	33.0	175.3	146.3	208.8
Melons & Watermelons	--	--	--	--	100.0	368.3	111.9	133.3	50.0	406.2	325.9	1,075.7
All Vegetables	--	--	--	--	220.0	--	--	--	--	--	198.6	268.0

<sup>a/</sup>SOURCE: 1970 Farm Economic Survey (Dec 15, 1971)

<sup>b/</sup> Wheat and barley yield figures for Shamalan and Darweshan, 1963 were combined in the Stevens-Tarzi Report.

## SOME PROBLEMS TO BE OVERCOME

This brief paper is not inclusive and the problems outlined are not new. Most of these problems were outlined in a meeting held March 14, 1972 between Governor Reza, HAVA representatives and USAID. It should be emphasized that when we talk about the problems of HAVA, we are talking about the problems of developing quality services and the delivery of those services to the people of the Helmand-Arghandab region. For convenience, a check-list of problems follows the discussion below.

There is general agreement that the potential for development and production in the Helmand-Arghandab region is enormous. But if this potential is to be realized, the total system of the infrastructure and the services installed in the past must be maintained and financially supported more adequately than they have been. While HAVA is capable of supporting itself under present regulations and administrative practices, several reform measures are needed to mobilize local resources in support of the region's future development as well as to inject a greater degree of social justice and equity.

The following actions would do much to raise the revenue needed.

1. Gradually increase operation and maintenance (O&M) assessments from afs 2 per jerib to actual costs. An effort should be made to explain to the affected people the rationale for the increase. Appropriate legal actions should be instituted to support such increases, as necessary.
2. Obtain agreement from the Ministry of Finance for the establishment of a special O&M fund, financed from O&M assessments, to be reserved to meet HAVA's O&M costs.
3. Raise to realistic levels the rates and revenues from the lease and sale of Government-owned land.
4. Ascertain ways to collect the costs of drainage construction, operation and maintenance from the beneficiaries.
5. Develop credit sources for farmers who desire to improve drainage and minor irrigation works on their own land.

6. Establish current tax registers and assess and collect designated taxes.
7. Continue the present high level of collections of loans to farmers for fertilizer, seed, etc.
8. Put Lashkar Gah municipality on a sound-self-financing basis (in coordination with Ministry of Interior).

Although a number of these items appear at first glance to be putting a burden on the farmers, it must be kept in mind that great benefits are accruing in this project area from a program which has involved large Government investment in the past. Not enough attention has been paid, however, to dividing the benefits among the people or to relieving the Government of some of the cost involved in providing the benefits. The major recipients of the benefits should, on grounds of social justice, make larger contributions. Present and future benefits of the project can be spread more evenly among an even greater number of people. This can be done through provision of improved services, through the settlement of new land and through a more equitable sharing of benefits and costs.

The misuse of water is a major problem in the Valley. A program to improve water management and control must be instituted. Such a program would include not only engineering solutions and improved O&M but also training of farmers in on-farm irrigation practices, encouragement of water user's associations and levying of realistic O&M assessments. Appropriate legal actions, legislation or Presidential decrees should also be undertaken as needed.

The misuse of water (including its unequal distribution) as now practiced is harmful primarily to the masses of small farmers since the large farmers have the power and influence to make certain that their water needs are more than met. The misuse creates water-short areas; it places a limitation on double-cropping; and it reduces the amount of land that is available for settlement. Some areas which could be brought under cultivation if water were efficiently used are left unsuitable for settlement. There is adequate water, if efficiently used, to support major increases in production for all, including newly-settled areas. In some areas, the misuse of irrigation water has led to water-logging and rapid salting of productive lands.

When the construction of the Shamalan lateral was first started, plans called for the new lateral to follow the escarpment at the edge of the desert and later

down through the central Khalaj district. Last spring, however, among other things, a local Khan refused right-of-way through his village. The original plans were consequently changed and the lateral was re-routed out through the desert. While the new adjustment eliminates the right-of-way problem it raises important technical problems. The delivery system from the lateral will have to drop down off the desert then cross some land rises to get to the water-short areas which were the original focus of the project. The realignment of the lateral will reduce its efficiency; it will not have the capacity to supply the water needed to adequately irrigate the areas planned to be brought under cultivation. There is also a very high probability that the project will result in water-logging and salting of some land now under cultivation unless accompanied by a drainage system (provided for in the original Shamalan project design but apparently dropped). These problems can be prevented if they are addressed now.

The emphasis on cereal production in the Valley should be reduced. (Lower wheat prices may already have resulted in some reduction in wheat planting in fall/spring 1972-73.) Support of the production of high-value crops such as cotton, fruits and vegetables should be emphasized. Training of extension personnel should be effected to this end, as should the orientation of adaptive research, demonstration plots, other farmer training and farmer organizations including cooperatives. It is essential that the effort to get farmers to move into high-value crops be accompanied by market research, market development and export promotion. Such efforts would bring greater rewards to all segments of the farm society of the Helmand-Arghandab region as well as to the nation as a whole.

There are major problems in the efficient organization and management of HAVA to meet the needs of the people in the Valley. Improvements are needed in vehicle maintenance systems; spare-parts procurement systems; warehouse procedures; O&M activities (keeping the irrigation system in operating condition, including systematic and complete cleaning of the canals and drains); and extension-agent service and training for the farmers. These things directly or indirectly affect the quality of services provided to the farmers (the object of HAVA activity).

The services of the health care and educational systems are not reaching all of the people who should be able to depend upon them. At present only some 4,000 students -- about 30% of the boys who are eligible and 5% of the girls -- are attending school. Outside of Kandahar, only Lashkar Gah has a medical center, thus forcing many Valley people -- between 15,000 and 20,000 outpatients each year -- to travel long distances to obtain basic health aid. An increase in the number of schools and teachers, and of adequately-staffed basic health centers in the rural areas is basic to the well-being of the people in the Valley.

In summary, while HAVA has made major gains in many areas since its beginning, there are still many problems to be faced. HAVA is an organization with a great deal of expertise, ability, experience and training -- and willingness to work hard and find answers. The Asian Development Bank approval of the Helmand Valley Road Project loan was predicated partly on its favorable assessment of the capabilities of the Afghan technicians, administrators and managers in HAVA.

With wise and generous support by Government, and appropriate external assistance from the U.S. and/or other sources, the great development potential of the Helmand-Arghandab can be realized.

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## CHECK LIST OF PROBLEMS IN THE HELMAND-ARGHANDAB VALLEY

1. Poor mobilization of local resources, including:
    - a. Failure of low operation and maintenance (O&M) assessments to recover actual costs.
    - b. Lack of a reserve fund to finance HAVA's O&M costs.
    - c. Unrealistically low rates and revenues from lease and sale of Government land.
    - d. Lack of financial contribution by farmers to drainage construction, operation and maintenance.
    - e. Inadequate credit sources for farmers who wish to undertake drainage improvement and minor irrigation works on their own land.
    - f. Inaccurate tax registers and tax collection.
    - g. Poor financial basis of Lashkar Gah municipality.
  
  2. Misuse of water, including:
    - a. Failure to correct faults in the distribution system which require engineering solutions.
    - b. Inadequate HAVA operation and maintenance program.
    - c. Inadequate training of farmers in on-farm irrigation practices.
    - d. Lack of water-user associations to assure efficient and fair water distribution.
    - e. Unrealistic O&M assessments (same as item 1, a, above ).
    - f. Need to review appropriateness of present regulatory and enforcement laws.
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3. Departure from original technically sound Shamalan project design, including:
  - a. Technically unsound re-routing of Shamalan lateral due to unsettled right-of-way problem.
  - b. Apparent lack of intent to provide required drainage system.
  
4. Failure to realize potential high value agricultural production, including:
  - a. Over-emphasis on wheat production and inadequate emphasis on higher-value crops such as cotton, fruits and vegetables.
  - b. Lack of extension workers adequately trained in specialty crops and lack of demonstration plots, both needed to improve farmer education.
  - c. Need to redirect the adaptive research program.
  - d. Lack of farmer organization (cooperatives) to increase their economic strength.
  - e. Absence of market research and development and export promotion.
  
5. Inefficient HAVA organization and management, including:
  - a. Poor vehicle maintenance.
  - b. Poor spare-parts procurement system.
  - c. Poor warehouse procedures.
  - d. Ineffective operation and maintenance program.
  - e. Inadequate extension-agent service and farmer training.
  - f. Inadequate budget for O&M and other field activities.

6. Limited health care and education, including:
  - a. Lack of medical centers except in Kandahar and Lashkar Gah.
  - b. Inadequate number of schools and teachers.

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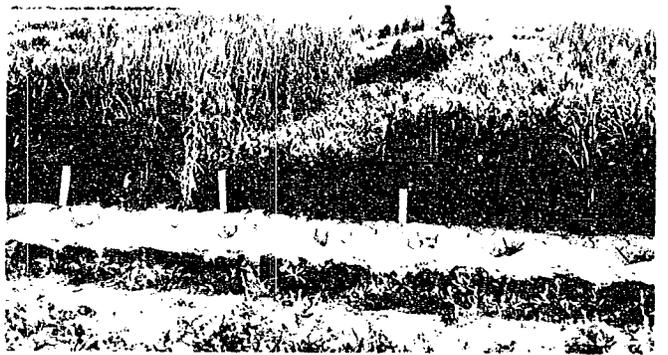
BELOW ARE SOME OF THE RESULTS OF THE INTRODUCTION OF  
IMPROVED SEEDS, FERTILIZER, BETTER CULTURAL PRACTICES  
AND IRRIGATION IN THE VALLEY



THE SAME METHODS ARE BEING USED TO  
ENCOURAGE EXPANSION OF HIGH VALUE CROPS



WHICH WERE A CONSEQUENCE OF COOPERATIVE EFFORT,  
REASEARCH AND DEMONSTRATIONS.



BUT POSITIVE RESULTS ARE BEING HAMPERED BY INADEQUATE  
MAINTENANCE AND WATER MANAGEMENT.

