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# SUMMARY OF AGRICULTURAL STRATEGY

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## 2. Summary of Agricultural Strategy drafted by John W. Mellor

### **1. Overview:**

The sum of the various components of the Master Plan is designed to provide a 6 percent overall growth rate in the agricultural sector. Those will double farm incomes in 12 years. The pattern of growth provided is normally associated with no change or slight improvement in the distribution of rural income, because of the strong income and employment multipliers to the rural non-farm sector. Thus, total rural income will also double. If the urban sector absorbs all the rural population growth then rural per capita income doubles in that period. These seem unlikely with current, by world standards, very high rates of population growth. These figures were arrived at through rough extrapolation from the individual chapters, but are probably a reasonable estimate.

Perhaps less than half the total investment plan is oriented directly towards this growth objective. Since substantial investments in physical infrastructure rehabilitation and human capital development fall outside this Master Plan, it might be fair to say that a sum equal to half of the total investment is needed for this growth if it is carefully prioritized and allocated to the highest growth elements of the strategy.

This is of course not to say that the other investments in the plan are not high priority. For example there is a huge investment in afforestation – that is important to the country, and not just to agriculture. It is probably necessary to make the agricultural growth sustainable. Similarly for the large investment in emergency food stocks in the allocations to direct poverty oriented programs. The benefits are quite different to those from the growth included in the above numbers.

### **2. Background:**

The Master Plan was generated through a long, complex, highly participatory process that included large and small meetings at the national and provincial levels. Large committees of Afghans and expatriates drafted chapters. The latter provided an input into each of the chapters that reflect the product of substantial foreign aid. The strength of the Master Plan lies in these chapters, which provide rich detail and perspective and the jumping off point for the detailed implementation treatment that will come with project preparation

The process led to considerable heterogeneity in the presentation, a flavor that is maintained in the text and this executive summary. Nevertheless a few priorities come through clearly. They are consistent with the priority to food security, horticulture and livestock already well stated by the MAAHF.

The investment plan presented totals \$1,384 million for the next five-year period. However, if likely double counting (e.g. same extension facilities counted in more than one budget), the Banking system capital, and irrigation investment (as in another Ministry) then the figure becomes \$1094 million or \$218 million per year. That figure

includes rapid achievement of important objectives with which there will be general agreement. Such vast sums may not be forthcoming in this time frame and they will have to be further stretched (e.g. afforestation.) It also includes large sums for functions that are the responsibility of national governments (e.g. emergency food reserves) that are currently provided by international institutions (e.g. WFP) and thus under budget stringency those investments may be delayed. As another example, the investment for horticulture is very large, but the immensity of what is to be achieved and the sheer size of the sectors growth may argue for keeping those expenditures. It was not for the Master Plan participants to make those decisions. In other cases detail was left for project analysis at such time as the efforts are undertaken. Finally, the development of an integrated Plan for MAAHF itself must follow this document. The MAAHF development budget items are largely contained in the individual chapters, but they are yet to be pulled together into an integrated investment plan for MAAHF as an entity. In any case much of the MAAHF development budget is likely to come from projects organized according to commodity or functional priorities rather than the MAAHF per se.

The Master Plan succeeds the 2004 Policy and Strategy Framework. In the dynamic Afghan economy much has changed while knowledge and skills have expanded. Those have led to considerable nuance in treatment of many of the issues. In particular the role of MAAHF and its priorities have been considerably elaborated.

### **3. The Multiple Roles of Agriculture:**

Agriculture dominates the Afghan economy and society. Economic development is a process of transforming such an economy from dominantly agricultural to dominantly manufacturing and services. However, in Afghanistan, because of the nature of the resource base and its impact on comparative advantage, that manufacturing and service sector will be heavily dependent on agriculture. More important, even as its relative importance declines rapidly with economic growth agriculture will increase immensely in absolute size and be the basic engine for the transformation of the economy and even more so for poverty reduction and poppy eradication. The Master Plan provides a road map for accelerating this engine and the consequent transformation of the economy.

#### **3.1 Food Security:**

In a low-income country food security is uppermost in the minds of the mass of people and their government. Agriculture initially ensures food security by producing the basic food requirement for each family. As development occurs it generates the income for purchasing food both for the country and for the individual families and allows specialization in commodities best suited to the natural resource base. For Afghanistan, the need is to produce the food staples on a declining area so that more land can be devoted to the high value commodities that further the other objectives.

The Master Plan states the production needs in the Food Security chapter. That chapter also delineates policies dealing with emergencies that arise from weather and other obstructions to the upward trend in production. In the long run the Master Plan is to achieve such large increases in farm incomes and rural wages and employment that food security is assured by adequate income even in depressed years.

Food security is more than adequate calories. Malnutrition and micro nutrient deficiencies are widespread in Afghanistan, especially among children. Between 45 and 55 percent of children fewer than five suffer from chronic malnutrition as indicated by height for weight statistics. The food security chapter treats that issue. It is also notable that in low income countries, when horticulture production expands the intake of nutrients from those commodities increase greatly- no doubt due to the availability of the low price, lower quality vegetables and fruits that are not marketable.

Thus the horticulture priority has favorable nutritional impact on the rural population.

### **3.2 Earning Foreign Exchange:**

Agriculture has always dominated Afghanistan's exports and will continue to do so into the foreseeable future. That is because of the blessing of natural resources ideally suited to producing high quality dried fruits and nuts as well as the proximity to large rapidly growing markets and a strong historical position in those markets. The Master Plan provides detail on the massive investments and institution building needed to realize these potentials. Increased dried fruit and nut exports alone are envisaged as reaching \$1 billion annually within ten years.

### **3.3 Poverty Reduction:**

The rural sector is home to the bulk of the poor of Afghanistan – on the order of half the rural population is below the \$1 per day poverty line and that despite the massive infusion of money from poppy production. The poor are not those who produce the bulk of agricultural output – the poor are largely in the rural non-farm sector. Put differently farmers who produce most of the output are not poor by the standards of their community. They have income from their labor and from land, while the poor are largely dependent on labor alone.

There are large numbers of people with plots of land so small that they provide neither a major portion of income or of employment. Those people, often classified as farmers, are part of the rural non-farm population. Thus, massive increase in employment in the rural non-farm sector is needed. However, the goods and services in the rural non-farm sector are almost entirely in demand for the local market. They cannot be sold in London and Paris or Tokyo for reasons of quality and costs of transferring them. If they are to grow, farm incomes must rise to provide the income to drive those sectors.

Where farm incomes grow rapidly, the market towns are vibrant places; when it does not they are sleepy places with poverty and underemployment. Rising farm incomes drive the rural non-farm sector and efforts to grow that sector without rising demand from agriculture fail or

simply transfer income amongst the poor. Thus, the Master Plan emphasizes activities that rapidly increase farm incomes and hence stimulus to employment and wage rates. In that context efforts to broaden participation in those activities will work and are an important part of the Master Plan. While those processes work special attention is given by the Master Plan to various aspects of food security for the poor and direct action program to raise incomes of the poor and of poor resource areas.

### **3.4 Improved Income and Status of Women:**

Closely associated with the issue of poverty is the status of rural women. The Master Plan gives high priority to intensive livestock development, an area already dominated by women on the production side. The opportunity is there to engage women in marketing livestock products, particularly dairy products and thereby increase their control of income. The horticulture priority also offers opportunity to bring women into active participation in production and marketing. However for those efforts to work provision of services must be made sensitive to past tendencies to exclude women from participation and hence to exclude them from the income raising potentials of improved technology. Certainly large numbers of women must be trained as agents in the extension program, especially in the livestock and horticulture areas.

### **3.5 Alternative to Poppies:**

Poppies bring on the order of \$600 million of annual income to farmers. Poppy farmers are estimated to spend \$300 million of that in the rural non-farm sector. Perennial horticulture (fruits, nuts and vines) can generate about half as much net income per hectare as poppies. The area to these high value commodities can be greatly expanded and yields on existing area can be greatly increased.

The emphasis on massive expansion of rural credit, discussed below and in the rural finance chapter is of course vital in the context of losing poppies as a major source of finance for the rest of the farming operation.

The massive horticulture plan in particular and in combination with other elements of the Master Plan offers potential to not only replace poppy income but to go beyond that to start on the problem of reducing poverty

Farmers will feel wealthier just from the gradual maturing of tree and vine plantings, but the rural non-farm population will be delayed in receiving the benefits of spending the increased cash income. Thus, it is essential that massive expenditure on labor-intensive rural infrastructure be initiated. That of course rehabilitates rural roads and irrigation systems that are essential to continued growth.

### **3.6 Agriculture is dominated by the Private Sector:**

Most private sector entrepreneurs in Afghanistan are farmers – there would be about one million counting only those who have enough land to be seen as not subsistence but commercial. Most of the industrial sector is agricultural input and processing oriented to providing services to farmers and farm related non-farm business. These private entrepreneurs are vigorous adaptable people.

The Master Plan is dedicated to prioritizing the public services needed to fully mobilize these immense private sector potentials. It guards against subsidies to public provision of any goods and services that the private sector can provide. It specifies rules and regulations that can foster private sector growth, especially in exports. But especially in Afghanistan at this stage of rehabilitation and development the private sector farmer and entrepreneurs require critical government services if they are to compete on international markets. Some of these services are purely temporary, much provided by foreign assistance and envisioned as provided outside of government institutions, to disappear when no longer needed. But many will be needed into the indefinite future.

Thus the Master Plan calls for large-scale institution building and investment to provide those services to facilitate the private sector. Because resources, both financial, and even more, trained personnel and institutional capacity, are so scarce the Master Plan is rightly judicious in prioritizing these services.

#### 4. Commodity Priorities:

Farmers produce and market specific commodities, marketing institutions are commodity specific, and many of the supporting systems are commodity specific. Hence, the Master Plan commences with chapters that deal with priority commodity groups and states priority commodities within those as well. From a growth perspective importance is a function of the base weight and the growth rate. Afghanistan is fortunate to have an initial high base weight in commodity groups that have potential for very high growth rates. As a result the overall growth rate can be high as well. Cereals have the largest base weight, but in the short run can hardly grow at 4 percent and area and the growth rate will gradually decline (table 1.)

Table 1. Commodity Sources of Growth (excluding Poppies), Notional for 2004 (All figures are percents) (data are rough estimates, see text)

Commodity Set	Base Weight (Value added)	Growth Rate	Share of Growth
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1. Cereals/Misc.	40	4	29
2. Perennial Horticulture	18	8	27
3A. Intensive Livestock	15	6	17
3B. Irrigated Fodder	9	6	10
4. Annual Horticulture	5	8	7
5. Cotton	2	15	5
6. Range Livestock	10	2	4
7. Forestry	1	2	1
Total/Weighted Ave.	100	5.4	100

Source: Constructed from current FAO and MAAHF data and 1970's World Bank data.

In contrast to cereals, perennial horticulture has a smaller base weight (although still large compared to other countries of comparable income) but has potential for a very high growth rate because of export potentials – indeed the Master Plan calls for a higher than 8 percent growth rate for horticulture. Thus horticulture ranks high in its share of incremental growth. Intensive livestock with its associated irrigated fodder also ranks high, but its full potentials may be delayed until domestic income increases to provide demand.

#### 4.1 Horticulture:

Over 600,000 farmers produce horticultural products in Afghanistan. In the prewar period Afghanistan provided 20 percent of the global market for raisins and dominated pistachio markets. The comparative advantage of Afghanistan in horticulture and particularly dried fruits and nuts is clear. Horticulture is treated at greater length than other elements in this summary because it illustrates many features common to other sub-sectors.

The Master Plan has a grand vision for the horticulture sector. It recognizes that specializing is critical to success and therefore targets only seven of the myriad of horticultural products that grow well in Afghanistan. It takes a ten-year time horizon because of the time required to bring fruit trees into bearing. In that time period it calls for \$600 million of private investment and \$900 million of public investment as well as nearly \$500 million of working capital needed by exporters and large additional sums in credit to farmers.

In return for these large investments exports would increase from a little over \$100 million per year to nearly \$1 billion; government revenues would accumulate over the period to \$264 million and the net present value (NPV) of accumulated net income would total \$1 billion.

Afghanistan has several market advantages. Its products are rated #1 in quality in the nearby Indian market. India now has a population component of more than 300 million people who are already prosperous and doubling their incomes every 8 years. That number of prospering people will grow immensely. Other markets are there as well. It is the immediate export potentials that make the sector the driving force of commercializing Afghan agriculture, displacement of poppies, and decreasing rural poverty.

However, the Master Plan is clear that this will not happen automatically. Massive investment is required. Most of all critical institutions must be built rapidly and as Afghan personnel rise to the occasion very large technical assistance will be called for.

The Master Plan lays out a massive extension program for extending now generally known means of improving current yields and a large program for planting of additional area (nearly doubling.) It is recognized that particularly with the slow start of rural credit systems, the huge decapitalization of rural areas arising from decades of destruction, and the natural caution of farmers about long term investment, that matching grants will be made for planting (just as was the case for the extraordinarily successful explosive growth of the smallholder oil palm industry in Malaysia that played an important role in kicking off that sustained growth success story.) These grants are for capital investment and are easily phased out. The total plan set forth is essential if the extraordinarily rapid growth rate is to be achieved. Grants sharply increase the return to own investment and therefore greatly accelerate the rate of expansion and hence the returns. A social return to such grants is easily calculated with assumptions about the acceleration in growth.

The agribusiness sector is particularly large for export-oriented horticulture. The Master Plan sets forth a large program of investment by both the private and public sectors for this sector. A program of very large provision of credit to these businesses is set forth with suggested means of providing that credit. But also see the chapter on rural finance. There is also a plan for direct financial assistance to kick-start the export firms just as for farms. Large temporary technical assistance to the sector is called for, including developing trade associations that will eventually manage without outside assistance. Thus, these elements of the effort are not built into the Government's institutional structure.

The large size of the agri-business sector and the major role of exports as an outlet for incremental production require major efforts by the Ministry of Commerce. The Master Plan lays out these needs and notes the need for close cooperation between the Ministry of Commerce and MAAHF in order to complete improvement of the full supply chain.

The horticulture sector will test the commitment of the government and donors to rapid, highly profitable expansion of farm income in the context of large investments both public and private.

#### **4.2 Livestock:**

Livestock in total are initially more important in income generation than horticulture, including recovery still underway from recent declines. Because the demand is much more dependent on the domestic market it will take a few more years for domestic demand to get onto a steady growth at a rate that will permit a six percent growth rate in livestock production (Table 1.) A small proportion of livestock products is exportable and therefore can grow ahead of domestic demand, but even those will be complex to recover. Nevertheless in the intermediate run livestock will be a major source of growth in farm incomes and stimulus to the rural non-farm economy. That is reinforced by the potential to displace the bulk of current large imports of livestock and livestock products.

Thus the Master Plan provides a large allocation of institution building and investment to the livestock sector. It distinguishes the extensive from the intensive types of livestock production

#### **4.2.1 Extensive Livestock Production:**

Extensive livestock production occurs over vast areas of the country and includes a large population of nomadic herders. The Master Plan is clear that there are important income problems amongst those peoples; that they have a large impact on watershed management, which is in turn vital to the irrigated agriculture; that there are important issues of community management of grazing lands along with problems of conversion of substantial areas to arable agriculture of questionable economic merit. Approaches to these problems are set forth.

It should be noted that the potential for growth in the range livestock sector is low, but of course the sector is immensely important to the fast growth irrigated sector because of watershed development which receives intensive treatment in the Master Plan under rangeland and watershed management.

The complementarity of extensive grazing, through providing stock for fattening, with intensive livestock production is noted along with the importance of sound watershed management.

Major changes have occurred in customary rights to grazing lands that have a large impact on the incomes of pastoral people, on watershed management and preservation of natural resources. Many pastoralists have severe income problems. In response to these problems the Master Plan places emphasis on community management of grazing lands and reestablishment of traditional rights to these lands.

At the general level, Substantial technical assistance will be needed for such efforts as continuing the privatization of veterinary services and for improving animal health at the epidemic level.

#### **4.2.2 Intensive Livestock Production:**

Large increments to income as well as of employment can occur in the intensive livestock sector. The sector will eventually need major efforts to improve the nutritional status of animals including large increase in the area planted to high value fodder crops and development of private sector feed mills selling to families with small numbers of stock. The horticulture chapter notes the desirability of interplanting young orchards with alfalfa, Egyptian clover and other legumes for animal consumption. It is notable that income from high value fodder crops can be several times that of traditional field crops under conditions of strong demand and improved cropping practices. The livestock chapter states how this would be accomplished. Thus, there is a complementarity between horticulture and livestock sectors.

There is a particularly large scope for increasing the incomes and the empowerment of women in this sector. Women already provide most of the labor and the management in the sector. They dominate marketing to a markedly lesser extent. Since the sector is so large the impact on women can be immense. It is also a sector that lends itself to the Micro Finance sector – loans to women to purchase animals and even for working capital and along the way assisting them in control of marketing. For women's programs and micro-finance programs to conform to this priority will push both along rapidly.

Expanding agribusiness not only for meat and milk processing but also to provide high quality mixed feeds to the intensive livestock areas is important. That, as in the case of horticulture, will require substantial assistance to the private sector in building trade associations, assisting in legislative improvements and in access to credit as well as best practices in other countries through business exchanges. Such help seen as temporary will not require building Government capacities.

At the firm level, major assistance is budgeted for privatizing and then providing some support to those private enterprises, as for example for veterinary services that farmer and herders will pay for. This is seen as a complex transition in which in many areas the shift to private practices is well along and others where it may take considerable time to make that shift. In particular special concern is noted for ensuring that low-income livestock producers receive veterinary services in the transition to privatization of those services. There will be continuing need to assist private feed mills with information on optimal feed mixes, taking advantage of changing availability of feedstuffs

Labs are need for several specific aspects of the supply chain for animal products. Eventually research will be called for in the most effective feed systems and the feed systems interaction with the crop farming system. Large expansion of extension is called for and the Master Plan goes into detail as to how that will be connected with farmers and become a bottom up operation responding to farmers needs.

#### **4.3 Cereals and Food Security:**

The Master Plan delineates three aspects of food security for financing. It allocates a massive \$250 million to various aspects of production of basic food staples and related aspects of raising farmer incomes. That includes \$135 million to irrigation rehabilitation, pointed at food security. The plan calls for \$31 million for emergency and stabilizing needs; and \$34 million to nutrition and safety net programs and \$20 million to capacity building in the MAAHF.

These are of course huge figures. However the irrigation element is a modest share of the total irrigation investment that must be made. The crop production figure includes large amounts of short run technical assistance while capacity is built in the MAAHF and that assistance would be used to build capacity even while specific tasks are pursued. The safety net and nutrition elements are large but they are in the context of massive rural poverty, malnutrition and wasting of infants.

At present, with cereals and especially wheat so dominant and food adequacy at the family level so fragile increasing productivity of the cereals and especially wheat is the first priority of the Master Plan. It is placed after horticulture and livestock in the list of Chapters to underline the emphasis of the Master Plan on achieving future prosperity in the rural sector and the vital role of the high value commodities will play in that future. But, on the short to intermediate run the first priority is food security.

The Master Plan calls for a doubling of wheat yields – which will still leave yields well below those in more developed countries with similar production conditions. There is already effective technical assistance from the international agricultural research system (CGIAR) to this sector. That assistance must continue. The research chapter lays out a major program of farming system research of which wheat is the centerpiece.

## **5. Cross Cutting Priorities:**

The Master Plan places a major emphasis on five crosscutting priorities – that is priorities that cut across the commodity priorities. The commodity priorities will guide priorities within the cross cutting areas where appropriate, as in research and extension.

It is important to recognize that WTO rules allow large government expenditure in each of these areas (in rural infrastructure as well) and that competing countries provide large government investment in these areas, giving their farmers a competitive edge. Afghanistan will have to do likewise to compete in the global arena. It certainly should not rely indefinitely on its competitors for the technical advances required to compete even though some information exchange will naturally occur.

### **5.1 Natural Resources:**

It is vital that the push for raising incomes and substituting for poppies are done in a manner that is sustainable – the present generation should not be benefited largely at the expense of future generations. The Master Plan provides detail and calls for large expenditure to ensure sustainability. The Master Plan for natural resources was built on a ten-year time horizon to fully make up for past degradation of the natural resources. The ten-year horizon is in recognition of financial and staffing constraints, despite the urgency of solving these problems. This still represents huge expenditure. Arbitrarily half of the expenditure is allocated to the first five years.

The total allocation for the five-year period totals \$192 million. Afforestation is the largest component in the budget at \$40 million. Other large components are watershed rehabilitation at \$39 million and nursery development at \$45 million. Afghanistan has suffered massive destruction of its forest resources, including pistachio. The plan allocates large sums to forest nurseries and to the afforestation effort. A significant part of the problem of degradation of natural resources lies with a continuing ambiguity in the legal state of much natural resource use. The Master Plan states means of dealing with this problem.

Watershed management is a major component of the plan. The bulk of the income in Afghanistan is currently and will increasingly come from the irrigated areas. Much of the current irrigated area is only irrigated in one season and even then with considerable fluctuation in water availability from year to year. Major studies show that water supplies in aggregate are sufficient to double the irrigated area. While the Master Plan, because of uncertainty about the Ministry home for various aspects of irrigation does not treat the investment needs of irrigation rehabilitation and expansion, except for the basic food crops in the food security chapter, it does treat farmer management systems of water management and watershed management.

The Master Plan provides detail on watershed management, interaction with rangeland and nomadic herders and with forestry. It sets forth institutional problems and requirements and investment needs for these sectors.

Significant allocations are made for wildlife management and preserves.

In the context of financial and personnel resource constraints decisions will have to be made among allocations to the small scale commercial agriculture and agribusiness that will generate large increases in income and foreign exchange earnings and large multipliers to the rural non farm sector; safety net type programs in the foods security realm, and investments in natural resource preservation and rehabilitation. These are three major categories of expenditure. The Maser Plan does not treat the issue of allocations at the margin among these broad categories of activities.

## **5.2 Research/Extension:**

To prosper, farmers must have improved technology – that is far truer of agriculture than industry because of the tight land constraint in agriculture. Yields must be raised. And, as part of that protection from disease and pests must be provided. A constant search must be made for means to better satisfy changing human tastes. Research in marketing and production systems is required. The chapters on the priority commodities gives detail on how extension systems start with farmers problems and needs and then respond to that – and also carrying the word to the research system which is also interacting with farmers through on farm trials and field days. Thus, the Master Plan describes a bottom up system designed to respond to farmers needs, but to do so with modern, constantly improving technology that allows constant increase in productivity, international competitiveness and farm incomes.

Research, extension, and farmers associations all lend themselves to internal priorities consistent with the commodity priorities and sub-priorities delineated in the earlier chapters. The fact that a high growth rate in agriculture in Afghanistan is highly dependent on exports for a significant portion of incremental production means that reliance cannot for long be placed on bringing in technology from the major competitors.

For several years Afghanistan can grow on known technologies and make up for some technical backwardness with low farm incomes (wages.) But eventually Afghanistan will

want to compete more directly in technology in the context of much higher farm incomes and rural wages. Developing a research program takes time, especially given the paucity of trained scientists. The Master Plan is clear that that effort must be commenced immediately. Because modern research is expensive, only a few commodities and functions can be covered. The horticulture and food security chapters are clear on the priorities. They must be adhered to.

Research will commence with highly applied research that is hardly distinguishable from extension. But a start must be made at moving upstream. That is partly because the private sector may take over some of the most applied types of research and concurrently demand support from public research systems for more upstream research.

The Master Plan calls for large donor supported technical assistance in support of the research system and that it be prioritized according to the commodity and functional priorities stated above. Thus, the priority is to research in support of food security (wheat and farming systems and pest and disease control), research in support of the horticulture priorities; and more in the future, research in support of livestock growth. The work of ICARDA and CYMMT with a large expatriate input but also considerable training of Afghans sets a desirable standard. Such an effort is needed immediately in horticulture and eventually in various aspects of livestock production.

Because of the lack of trained scientists in Afghanistan and the urgency of getting started expatriate scientists on long term assignment must play an important role. The old Rockefeller model in India was a highly successful example of getting the green revolution started immediately while building Indian capacity to keep it going. The expatriate must do research, not just advise, but in close collaboration with the Afghan

colleagues. Those same Afghans must also receive training in other countries as well. That way critical research will get done and national capacity built.

The expatriate research people will be experienced on the practical side of applied research and therefore will be of great help in orienting the extension system towards best modern practices. This is an important spin-off from the early stages of building research capacity.

The investment plan allocates \$24 million to extension (in addition to the large allocations in the horticulture and food security chapters); \$12 million to food security related research, including the wheat and farming systems programs with their ICARDA and CYYMY inputs, and \$5 million and \$3 million respectively to pest control and post harvest technology; and \$7 million to horticulture research.

### **5.3 Financial Systems:**

Afghanistan agriculture is historically highly commercial, even on very small farms – that is selling horticulture and livestock products in large quantity. That makes the requirements for finance much greater than in traditional cereal crops. Likewise the processing sector is far

larger for these high value crops and in turn requires large volumes of credit, a need exacerbated by the need for export credits. Probably lack of credit is now the binding constraint to agricultural growth in Afghanistan. Perhaps surprisingly there are also large sums that rural people save that need to be mobilized as deposits and then relent to the rural sector.

At present there is great progress being made in providing national coverage of micro finance systems. However, as presently constituted, micro finance has little to do with agricultural production. It could be quickly adapted to finance smallholder livestock production and even very smallholder horticulture. But given the size loan and the management intensity and consequent need for subsidies or virtually usurious interest rates it is restricted to very small farmers and non-farmers who produce only a few percentage points of agricultural output. Because of its relation to direct poverty reduction a capital sum of \$30 million is allocated to complete national coverage of the micro credit system. (All the sums stated here and below are for capital to the credit system.)

There is a view that commercial banks can play a major role in agriculture. It is to be hoped they will soon be able to manage necessary lending to agribusiness, which they are not serving adequately at present. Perhaps some years down the line they will lend to the largest farmers, but they are unlikely to move down to the middle peasant for many years to come. Nevertheless a modest allocation of \$1.9 million is allocated to stimulate the agricultural effort of the currently most agriculture oriented of the commercial banks.

Fertilizer dealers, particularly with the kind of training program IFDC is providing could become competitive lenders to farmers for fertilizer purchase. The financial system needs to find a way to provide tens and eventually hundreds of millions of dollars through this outlet. Currently donors are contemplating \$10 million for this effort but \$100 million is seen as necessary for the long-term expansion.

That still leaves the middle farmers who produce some 90 percent of agricultural output covered at best with dealer credit. Farmers are crying out for a rural credit system designed to serve their needs. The political system is bound to respond. The issues are complex and require a team of persons highly experienced with the failures and successes of Asian institutional rural credit systems. Such highly knowledgeable and experienced people must be engaged in this issue.

The Master Plan has suggestions for a rural credit system that would be based on farmers credit associations, to be farmer managed and farmer owned – but requiring large technical assistance to start; and an apex body that would wholesale to the farmers associations and would also lend large sums to agribusiness, thereby spreading overheads, reducing unit costs and keeping interest rates down. Much of this solution lies outside of the MAAHF. However, consistent with the allocations to micro credit, \$100 million capital allocation is stated for the system for the middle farmers.

#### **5.4 Community and farmer organization:**

A major theme in the Master Plan is farmer control of expression of their needs, management of systems and input into higher-level services. It notes the importance of general community

organizations that are the purview of the Ministry of Rural Development and expands on types of farmers associations that will require assistance from the MAAHF. The new organizational structure of MAAHF recognizes this need and its close affinity with extension and research and so has grouped these three functions in the same Department to ensure close cooperation. The Master Plan notes this structure and gives a priority to each of the components for institutional strengthening and associated technical assistance and sets forth substantial budgets for this purpose.

The chapter on finance notes the need for the MAAHF to rapidly organize farm credit associations and allocates investment to developing that capacity on the MAAHF. These will require considerable assistance for some period of time not only in organization but also in providing accountants and management training. Eventually they will become free standing and will need continuing advice on such matters as management and changing financial instruments.

The chapter on horticulture notes the need for farmer organizations to assure quality and adequate volume as well as the ability to trace growers for meeting increasing standards of importing countries, and for the future in Afghanistan as well. The MAAHF will need to develop capacity for organizing these associations on a massive scale and then providing continuing advisory services in the same manner as is done in so many high income countries.

On farm water management is now recognized everywhere as vital to water use efficiency and that farmers associations with full power including financial resources are critical to this function. The natural resources chapter notes this need and describes an on going project to establish water users associations. That pilot effort needs to be turned into a large national effort. That will require substantial TA.

### **5.5 Gender:**

The Master Plan gives attention to how women can increase control of their lives and emphasizes mechanisms within the priorities for growth, poverty reduction, and poppy substitution. As discussed above, animal husbandry offers the greatest potential. Horticulture needs additional exploration.

### **6. Building the Ministry of Agriculture:**

The Master Plan places immense burdens on the MAAHF. The size of these burdens and the limited trained staff require very tight priorities as to what activities the Ministry takes on and conversely leaving as much as possible to the private sector. The Horticultural chapter as well as others specifies these relationships and division of tasks. The relationship between MAAHF and the private sector is truly symbiotic. However, even the minimum activities required of the MAAHF and selecting priorities according to the Master Plan priorities will still require substantial long term technical assistance supplemented with high-level short-term assistance. The Master Plan delineates large numbers of such requirements.

Most of the functions of MAAHF are described in detail in the commodity and cross cutting chapters. Those chapters delineate technical assistance as well as larger donor managed projects. It is stated that those donor projects will work within the MAAHF and work with Ministry counterpart staffs as part of learning by doing process. With the Master Plan in hand the MAAHF will pull together these several elements into a comprehensive plan for the MAAHF.

Three sets of activities have separate chapters – planning, private sector support, and regulation, even though some of the regulatory function is also covered in other chapters.

### **6.1 Planning:**

MAAHF's new structure now includes a planning department with six divisions. This Department will provide the capacity to ensure that the agricultural growth and rural poverty reduction efforts proceed on a national scale with full integration of the various donor projects into the national effort. This Department is the core of coordination of donor efforts into the national effort and for ensuring that priorities lead to building national capacity to manage the development effort as a national program.

In brief, the Planning division will handle development and refinement of sectoral and sub-sectoral planning. It will nurture the Master Plan ensuring adaptation to evolving conditions and sequencing priorities. The Policy division will generate papers on special issues facing the Ministry. The Project Development division will work with all departments in developing special projects for financing; The Monitoring and Evaluation division will first inventory the large number of M&E studies carried about by the multitude of NGO's and donors and commence to build national impact studies from those as well as lessons for improving performance. It will also monitor progress in MAAHF itself as it works to meet the multitude of demands placed on it. The Statistics division will absorb the ongoing work of FAO and gradually expand that to fuller and more regular statistical coverage of progress and change in the agricultural sector. That work will be in consultation with the national statistics structures. The Foreign division will monitor donor efforts compiling coverage of priority areas and diagnosing gaps in consort with the planning department. The legal division will assist the Minister in assessing various legal issues facing the Ministry and the sector.

Each of the functions in the Department have urgent requirements for action, requirements that cannot be met other than through MAAHF departments. And, the staff is small and inexperienced in dealing with these issues. As a result a long-term expatriate input with complementary short-term consultants is needed for four of the six divisions. That assistance will be used to do critical work, but in collaboration with a counterpart who will gradually be able to operate without that assistance. Training programs are delineated for upgrading the staff. All the expatriate positions will be phased out in three or less years. The Master Plan also specifies physical facilities needed. These efforts call for a five-year development budget of \$9 million.

### **6.2 Private Sector Support:**

The Master Plan devotes a chapter to the issue of supporting the private sector. Of course, all elements of the MAAHF are devoted to improving the environment for private sector investment and growth. This chapter spells out specific functions for directly assisting the private sector and requires a development budget of \$3 million.

### **6.3 Regulation:**

Agriculture will increasingly require regulatory mechanisms for a wide variety of activities. Some of these will fall in the Ministry of Commerce. The production oriented and some of the input supply and marketing regulations will fall in the MAAHF. They are to be placed in a single department that will require substantial foreign technical assistance and large expenditure on labs and lab equipment. The overall investment required is about \$54 million.

### **7. Gaps in the Analysis:**

The Master Plan is of course a work in progress. Even a carefully worked out and detailed program as in the Horticulture chapter will evolve and improve over time. However, three specific areas need immediate attention. These are substantially outside the MAAHF, but vital to agricultural growth and rural poverty reduction.

#### **7.1 Human Capital:**

Although beyond the purview of the MAAHF Master Plan attention needs to be drawn to the massive needs for trained personnel in the MAAHF. That requires expansion of the Universities and their orientation to preparing students for work in the private sector, including the agribusiness supporting agriculture, and most of all the set of credit institutions serving agriculture, as well as the MAAHF itself.

In the meantime training programs are needed. A large number of the most able staff must be rotated into Masters Degree program in nearby countries. A start must be made in providing Ph.D. training to a growing cadre of researchers as the research programs must be developed to provide short run increase in capable staff. Special concern must be directed at the stock of highly intelligent persons in their 20's and 30's who have only a 12 grade education and yet are mature enough to take on specialized training. If they were college graduates, they would normally be put into Masters Degree program. What can be done to utilize these talents?

#### **7.2 Physical Infrastructure:**

The physical infrastructure for agriculture must be built rapidly at immense cost. That of course requires rehabilitation of the rural road system; it also includes development of market centers that will increase the competitiveness and efficiency with which markets operate. Only a small portion of irrigation rehabilitation has been included in the Master Plan because at the moment much of that responsibility lies outside the MAAHF

### 7.3 The Investment Plan:

Table 2 summarizes the investment plan. It is a compilation of the investments called for in the individual chapters. Some attempt has been made to extrapolate for gaps in the plans, to provide a common format for tooling up the expenditures. Consideration was not given to availability of funds. Rather priorities were set and budgeted. Questions about allocation amongst the chapter subjects are matters of high level prioritizing of objectives as is the allocations between agriculture and other sectors. We would simply point out how vital agricultural growth is to all objectives and how large and complex the sector is and how dependent other sectors are on agriculture for inputs and output.

Table 2 shows the financial requirements categorized by commodity and function, and type of expenditure per the chapters in the Master Plan. If the banking capital and irrigation investment are removed the total is \$1094 million or \$219 million per year. The proportions among the categories seem consistent with the priorities. Horticulture is about 35 percent larger than food security because of greater complexity and earnings and the high returns to saving time by immediate plantings and investment in the private sector. Livestock is lower because of a stretching of the priorities to relate to the delayed growth of domestic demand. Natural resources are large because of the immense environmental and protection problem associated with the years of destruction. Research is quite modest considering that it represents the future of the country's agriculture.

Technical assistance at one quarter of the total is high because of the immense need for training which is included in that budget and the role of expatriates in training on the job. However given the huge expense of TA it must be absolutely certain in every case that a foreign technical person leaves behind an Afghan in an institutional structure that will last, particularly including the MAAHF, who can do the job after the expatriate leaves. There are presently a few efforts to work along these lines, these must be made the norm rather than the exception and the whole effort needs to be vastly strengthened along those lines.

The large sum for capital strengthening of the rural financial system is probably an underestimate, but if rural deposit mobilization is a strong part of the system it might be reduced. The huge expenditure on equipment is probably a reasonable estimate given the enormous decapitalization that has occurred. It is simply a recognition that the recapitalization needs to occur and an effort to arrive at reasonable numbers.

As suggested at the beginning, priorities can be set within this effort, but in the final analysis development of the massive agricultural sector costs a lot of money and provides enormous returns as shown in the horticulture chapter.

Table 2. Five Year Investment Plan, Investment Category and Function, 2006-2010 (all figures \$000,000)

Category	Technical Assistance	Equipment	Civil Works	Recurrent Cost	Total
Horticulture	114	153	51	137	455
Livestock	23	14	39	20	96
Food Security	37	119	145	43	344
Natural Resources	116	15	33	28	192
Research/Extension	38	13	4	6	61
Rural Finance	20	0	0	155*	175

Planning/MAAHF	7	0.6	0.5	0.8	9
Quality Control/ “	14	11	14	7	46
Privatization/ “ “	2	0.4	0	0.5	3
Total	371	326	287	397	1,381

\* This is capital finance for banking system

If the banking capital and the irrigation (as probably placed in another ministry at the moment) are removed, the total becomes \$1094 million or \$219 per year.

- Technical assistance includes all training, overseas travel etc.

#### 7.4 Conclusion:

The Master Plan follows earlier planning efforts with the benefit of considerable experience, which leads to a number of substantial modifications as well as expansions on earlier efforts. It is formulated to move the country rapidly towards a high growth rate, rapid reduction in poverty and substitution for poppies. The plan starts with agriculture as the basic engine of a high proportion of overall growth and dominating poverty reduction and poppy substitution.

It sets commodity priorities to ensure food security, massive growth of exports, and serving a rapidly growing domestic market for high quality diversified diets. It states cross cutting priorities essential to achieving the commodity priorities. Recognizing binding financial and human capital resource constraints it sets tight priorities at every level. The result will be an agriculture able to compete on domestic and international markets with the current leaders in the field.

Despite the tight priorities, the requirements of technical assistance, institution building, community and farmer organization, credit and finance are immense – although modest compared to the impact stated. We sincerely hope that the immense effort that has gone into producing this Plan, including the large participation in the process from all walks of life domestic as well as international has produced a Plan that will bring the enthusiasm essential to raising the human, institutional and financial resources and also the enthusiasm from those who will implement it to throw themselves into the process and make it the success that all the many participants in this effort envision.