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EXECUTIVE SUMMARY

This presentation is intended to provide an analysis of the cold storage industry and its impact on the agricultural products of Afghanistan. Particularly, in this report we will cover (1) the regulatory body, (2) market size, (3) major players in the market, (4) its contribution to the GDP, and (5) employment.

The Agriculture sector counts for up to 40% of Afghanistan' GDP. More than 80% of the population relies on Agriculture for their livelihood. The main crop continues to be wheat. But horticultural crops provide important additional income to farmers. One of the main problems of this sector is shortage of cold storages. During the season, the supply of an agricultural products becomes abundant. Therefore, the price declines sharply, the farmers struggles to recover their expenses. So, cold storage allows them to sell products out of season with 2-5x the price at season. Moreover, 40% of agricultural products are wasted due to lack of cold storage rooms in Afghanistan. Afghan Area under refrigeration is 24,000 square meters compared to 131M square meters in India.

There are a total of 3,164 cold storages with more than 120K metric tons overall capacity and \$35M overall investments in the country. Of the total number of cold storages 92% (2,923 units) are active. In addition to MAIL, which regulates & provides financial support to the sector, cold storage facilities are also funded by donors.

In order to evaluate a cold supply chain, we selected grapes for this study. Grapes account for 48% of the total fruit-growing area in Afghanistan. Mostly, they are grown in the south-east, northern, central, and west regions of the country (annex 1). In 2009, around 58K MTs of grape was produced. However, 90% of the products have been grown in the regions surrounding the Parwan, Kandahar & Helmand provinces. Whereas, Afghanistan is not a global player in terms of grape production, it meets most of its domestic demand and also export to regional markets in short-term, including India, UAE, Pakistan and Central Asia.

There are 2M people engaged with the horticulture production business. Afghan horticulture has grown at 5.5% over the past decade. With a small additional investment, the industry is well positioned to expand even faster. The industry contributes \$1.4B of the national GDP and 34% of the agricultural GDP. The industry provides some 350K full-time jobs, of which some 90K are in the non-farm economy. Horticultural exports are worth more than \$700M per year.

Based on the current agro-economic scenario of Afghanistan. There are approximately 20%-40% annual wastage in agro-products, mostly 30% fresh fruit and 20% fresh vegetable. These products have been harvested on 360K hectares of the lands. We did an international case study, In which we selected the top 20 economies, whom are dominant in the cold storage industry. Then the three neighboring economies including; India China and Pakistan were studied in detail. Recommendations are discussed in the next slide.

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RECOMMENDATIONS

ISSUE	Recommendation
Limited credit access	MAIL through Card-F should prefer to finance cold storage projects. Currently, Card-F provides grant of 60:40, we recommend to increase to ratio up to 80:20 for cold storage projects.
Insufficient # of cold storage facilities	We recommend, MAIL has to allocate the reconstruction of the CSFs to the major vegetable and fruit producing cities including; Ghazni, Balkh, Herat, Kundoz, Sar-e-Pul, Faryab, Logar, Wardak and Takhar provinces. Currently, our horticulture production is approximately around 1,163K MT. This means we need approximately 290K MT of cold storage space. Specifically, this amount is specified; (1) 100MTs from cooperative type costs \$600M, (2) 60k MTs from commercial type costs \$78M, and (3) 100K MTs from farming type CFs costs \$22M. In this regard, ABD already have \$100M fund for investing in CSF industry. Therefore, we recommend ADB to work under the instructions of MAIL on allocating CSF building to the regions, where it is highly needed.
Repairing silos storage	The Silo storages are good option for storing agro-products. The rehabilitation of 5 silo storages costs \$5M. Kabul silo (\$0.8M), Pul-e-Khomri silo (\$0.7M), Mazar-e-Sharif silo (\$0.6M), Herat silo (\$0.5M) and Kandahar silo (\$2.3M). In this regard, MAIL is currently working with the WB on such a proposal with WB to rehabilitate the Silo's storages.



INDUSTRY OVERVIEW There are a total of 3,164 cold storages with more than 120K MT overall capacity including all three types of CSF and \$35M overall investments in the country. MAIL is working on a strategy of building 300K MT storage during next 5 years.







SUPPLY & DEMAND

The total production of vegetables, fruits (except potato and onions) in 2015-2016 was 1,163K MTs. We selected 10 largest vegetable and fruit producing cities to provide comparison between their production & their cold storage capacities. Based on this analysis, we need an additional 2001 MTs of cold storages during the part 5 wars





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The below calcul	ation shows	that the tota	l construction	cost of mode	rn storage is \$	30.8 million.						
		KUNDOZ	KABUL	SAR-E-PUL	HERAT	KANDAHAR	GHAZNI	TOTAL				
Ratio of storage over pro	duction A	1M3/4MT or 25%	1M3/4MT or 25%	1M3/4MT or 25%	1M3/4MT or 25%	1M3/4MT or 25%	1M3/4MT or 25%					
Cost per M3 space (\$)	в	77	77	77	77	77	77	462				
Available storage capacit	ly (MT) c	1,500	1,795	2,050	5,400	12,235	1,500	24,480				

Ratio of current storages over

Required storage capacity(%)

Requires spaces(M3)

Required cost (\$ million)

production

D

Е

0.40%

A-D=24.6%

F*B=0.7

F (E*C)/D=9,225

0.70%

24.30%

62,312

4.8

0.40%

24.60%

126,075

9.7

2.70%

22.3

44,600

3.4

2.80%

22.2

97,006

7.5

0.60%

24.40%

61,000

4.7

390,993