Sindh Investment Projects
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Sindh Board of Investment
is the primary investment promotion agency of the Government of Sindh. It aims to develop and promote an investment friendly environment to boost economic activity, bring value addition to all sectors of economy and encourage investments through private sector public private partnerships and Public sector for accelerating development in Sindh.
Investment Opportunities in Sindh, Pakistan

Sindh is the second largest province of Pakistan with a population of 42 million having Karachi, financial hub of the country as its capital. There are tremendous opportunities of investment in Sindh in Infrastruture, Energy, Urban Development, Agriculture including Livestock & Fisheries, Food, Agro Processing & Mining sectors. Sindh Board of Investment provides platform for public private interaction, business partnerships and matchmaking.

SBI has identified following key sectors and short listed following projects from each sector for Investment in Sindh.

Agriculture and Agro Processing Projects

Agricultural economy of Sindh Province contributes 23% to country’s GDP. Keeping in view global food security concerns, its vast agriculture expanse has capacity to become region’s food basket. Introduction to value addition through use of technology, efficient irrigation systems and modern implements can help attain its true potential. Following Agro related investment projects are ready for investment.

- Guava Processing
- Mango Processing
- Dates Processing, Paste & Syrup Plant
- Controlled Atmospheric Cold Storage (AEPZ)
- Drip Irrigation
- E-Beam Irradiation Plant

Livestock, Dairy, Fisheries and Poultry

There is a huge potential in the Livestock, Dairy & Fisheries sector in Sindh. Pakistan ranks as 5th largest milk producer, with 38.69 billion litres produced annually out of which only a small fraction is processed. In the context of livestock, 28% buffaloes, 27% cattle, 24% sheep, 28% camels and 40% poultry population in Pakistan is found in Sindh. The potential of Halal Meat exports and the ever-rising gap between the demand and production of meat and milk makes Sindh a very lucrative investment destination. Following are the ready projects for investment in this sector.

- Bhambore Dairy Village
- Halal Meat Park (Abattoir, Processing, Certification, Packaging, Storage)
- Shrimp Aqua Culture Farms
- Metro Dairy Farm
- Luaripak Livestock Company (LLC)
- Establishment Of Beef Production
Investment Opportunities in Sindh, Pakistan

Infrastructure

The growing urban population in Sindh creates an ever-increasing demand for urban development and Infrastructure Projects. Infrastructure Development possesses tremendous potential to bridge the gap between rural and urban economy. The large urban centre of Karachi creates continuous opportunities for commercial ventures. The construction industry has shown great progress in recent years by undertaking various challenging projects. However, there still lies a large scope for following projects:

- Education City Project
- Arfa Karim Technopolis Project
- Bus Rapid Transit BRT
- Keenjhar Lake Resort
- Khajoor Mandi Khairpur
- Sukkur Dry Port
- Sindh Grain Storage Project

Energy

Sindh with its proven reserves of oil & gas, coal, Gharo - Dhabeji wind corridor, and round the year sunshine is tipped as the Regional Power House of the future. Only Thar with 175 Billion tons of coal reserves offers 200,000 MW of electricity for 300 years. Wind corridor of Sindh is 60 km wide from Gharo till Keti Bandar and 180 km long up to Hyderabad with a potential of 50,000 MW. The annual radiation of 3000 hrs in Sindh has an endless potential for Solar energy. High return energy sector projects for foreign investors are:

- Thar Coal Mining & Power Plant Projects
- Coal Mining, Washing, Bricketing Plants
- Wind Power Project
- Run of the River Hydro Power Projects
- Solar Street Light Initiative
Investment Policy

Government of Sindh has strived to facilitate and create friendly environment for investors for increasing investment opportunities. Sindh Board of Investment, a primary department is tasked to provide conducive platform with one window operation. Government of Pakistan has devised investment friendly policies to attract as much FDI as possible.

Ease of Investment
- Reducing minimum foreign equity requirement for a project from US$ 0.5 million to US$ 0.3 million
- Repatriation of 100% capital, profits, royalty, technology and franchise fees allowed.
- Zero import duties on capital goods, plant and machinery and equipment not manufactured locally.
- Enhanced First Year Allowance for depreciation from 50% to 75% of plant, machinery & equipment for infrastructure and agriculture projects.
- Zero-rated import tariff on agriculture machinery (not manufactured locally) for registered corporate agricultural projects.
- Zero import duties on raw materials used in the production of exports. Sindh Development Fund (SDF) for agro-based industries:
- Subsidizes 100% KIBOR (Karachi Inter Bank Offer Rate) on Capital cost 50% KIBOR on Working Capital
- Comprehensive duty—free facilities for investors.

Investment Act
- Foreign Private Investment (Promotion & Protection) Act 1976
  - To provide for the promotion and protection of foreign private investment in Pakistan.
- Act No. XII of 1992
  - Provides for furtherance and protection of economic reforms.
- Special Economic Zone Act 2011 (Under Approval) provides multiple incentives for industry included in SEZS.
- Sindh Public Private Partnership Act

Fiscal Incentives for Corporate Agriculture Farming (CAF)
- 0% custom duty and sales tax on import of agricultural machinery, equipment and implements under SRO 575(I)/2006 dated 5th June, 2006
- Exemption of duty on transfer of land for CAF
- Tax relief; Initial depreciation allowance @ 50% of machinery cost
- Dividends from corporate agriculture farms are not subject to tax
- Farm income given more favourable treatment than income from other sources.
Investment Policy

Energy & Power

- Concessions of Policy available to all sectors i.e. Private, Public Private and Public sector
- Proposals on raw sites or without feasibility studies welcomed
- Thrust on development of power projects based in Indigenous resources and fuels especially coal and renewable
- Tariff (for solicited bids) through international competitive bidding
- Two part tariff comprising of CPP (Capacity Purchase Price) and EPP (Energy Purchase Price)
- Hydel projects in the private sector will be implemented on Build-Own-Operate-Transfer (BOOT) basis. However, Thermal projects will be established on BOOT or Build-Own-Operate (BOO) basis
- To promote indigenization local engineering industry to develop power projects with cumulative capacity of at least 2000 MW by year 2015
Investment Policy for Renewable Energy for Power Generation

**Salient Features:**

i) Invites investment from the private sector for following categories of proposals:
   a. Independent power projects, or IPPS (for sale of power to the grid only)
   b. Captive cum grid spillover power projects, (i.e., for self-use and sale to utility)
   c. Captive power projects (i.e., for self or dedicated use)
   d. Isolated grid power projects (i.e., small, stand-alone)

ii) Except for category (a) above, these projects will not require any LOI, LOS, or IA from the Government.

iii) Electricity purchase NTDCA/CPPA from qualifying renewable energy—based generation projects has been made mandatory.

iv) Permits an investor to generate electricity based on renewable resources at one location and receive an equivalent amount for own use elsewhere on the grid at the investor’s own cost of generation plus transmission charges (wheeling).

v) Allows net metering and billing so that a producer can sell surplus electricity at one time and receive electricity from the grid at another time and settle accounts on net basis. This will directly benefit the economies of small-scale, dispersed generation and optimize utilization of installed system.

vi) De-Licenses and deregulates small-scale power production through renewable resources (up to 5 MW for hydro and 1 MW for net metered sales) to reduce the transaction costs for such investments. This will be particular beneficial for micro, mini and small hydro as well as solar based electricity production.

vii) Lays down simplified and transparent principles of tariff determination.

viii) Insulates the investor from resource viability risk, which is allocated to the power purchaser.

ix) Facilitates projects to obtain carbon credits for avoided greenhouse gas emission, helping to improve financial returns and reducing per unit costs for the purchaser.
Investment Policy for Development of Local Coal

I. Thar coalfield declared as Special Economic Zone, and the projects of development of Thar (also including coal mining and power generation declared as "Project of National Security").

II. 20% (US Dollar based) IRR to firms which achieve Financial close before 31st December 2015 for Mining & Power Projects based on indigenous coal and additional half a percentage IRR i.e. 20.5% IRR for firms which financial close by or before 31st December, 2014.

III. Zero percent customs duties on import of coal mining equipment and machinery including vehicles for site use.

IV. Exemption on withholding tax to shareholders on dividend for initial 30 years.

V. Exemption on withholding tax on procurement of goods and services during project construction and operations.

VI. Exemption for 30 years on other levies including special excise duty, federal excise duty, WPPF and WWE
Public Private Partnership

In line with the global trend and particularly in line with its development objectives, Government of Sindh took a bold initiative of setting up a Public Private Partnership Unit, in Finance Department, to launch the projects of extreme socio-economic significance, in PPP mode. In particular the PPP Unit was established to achieve following objectives:

- Promoting social development and inclusive economic growth through development of infrastructure;
- Ensuring sustainable long-term funding for infrastructure development through mobilization of private investments;
- Ensuring technical, economic and financial viability of infrastructure projects through adequate project preparation;
- Improving the efficiency of management, operation and maintenance of infrastructure facilities through introduction of modern technology and management techniques;
- Achieving a larger scope and better quality of infrastructure services for end users through the additional financial and human resources mobilized from the private sector;
- Ensuring financial sustainability of infrastructure services through full cost recovery supplemented by viability gap funding (VGF), if necessary; and
- Protecting the best interests of all stakeholders including end users, the Government and the private sector.

Regulatory Framework

To ensure that the projects to be developed in PPP mode are properly scrutinized and approved, a high power PPP Policy Board under the Chairmanship of Chief Minister has been established which is also represented by various public and private sector members. All the projects undertaken by PPP Unit, on recommendations of various Government agencies, are approved by the PPP Policy Board, to the point of execution of the project.

Legal Framework

To provide a firm legal framework, the Public Private Partnership Law has been enacted. The PPP law is based on an inter-country comparison, incorporates international best practices, and is consistent with the other components of the enabling PPP framework. Apart from specifying the various sectors and PPP modalities covered, the law outlines the institutional arrangements for PPPs; specifies the government agencies acting as the public sector partners; assigns the responsibility for PPP project identification and preparation; stipulates the rules, procedure and responsibility for the selection of the private sector partners; lists the main terms and conditions of PPP agreements; outlines the types of government support; and defines the cost recovery and risk sharing principles.

Financial Support

To enable departmental PPP Nodes to undertake feasibility study and related project preparation Project Development Fund has been created. Furthermore, to support the execution of projects of socio-economic significance, which the government agencies would otherwise either not initiate or be able to complete, Viability Gap Fund has been created. Both of these funds would encourage the agencies/departments to pursue the government’s objectives regarding PPPs.
Education City Project
Project Rational

Government of Sindh plans to make an ambitious and visionary investment in our people and economy by creating the Education City. With an estimated 103 million Pakistanis, or 63% of the population, falling under the age of 25 years, the country is blessed with a great potential of human resource which needs to be equipped with education and training to steer the country on the path of prosperity. Education City will provide opportunities to Pakistani students to avail quality education within the country, which they tend to seek from abroad.

Government of Sindh recognize that development and advancement will only come with an internationally recognized Educational System which we look forward to achieve by fostering the interaction of various disciplines, cultures and ideas. Education City aims to provide a superb environment and facilities for both teaching and studying, backed by outstanding learning institutions and technological research centers.

Objectives

Education City (EC) is fostering a better tomorrow for future generations. Approximately 9,000 acres of land has been notified as Education City. Core elements of EC are educational and health institutions that will provide solutions to Pakistan’s challenge of higher education. Education City of Karachi is being planned to become a model for synergetic collaboration of Public and Private sectors with the academia to bring about substantial investment in the future growth of the country.

Educational institutions will create the opportunity for private R&D businesses as a component of EC. Education City Master Plan (ECMP) is currently being executed. The project would be managed by an independent authority, which will oversee the overall management and development of Education City.

Education Instition

- Ziauddin University
- Habib Foundation
- New Port Institute
- Judicial Academy
- Cadet College
- IT Media City
- M/s Barrett Hodgson Pakistan (Pvt) Ltd.
- Target Institutions for future allocation
- World renowned IVY League Universities

Development Plan

An investment of USD 300 mn is required to develop infrastructure for Education City which include the following:

- Internal Road Network
- Power and Electrification
- Solid Waste Management
- Telecommunication
- Irrigation System
- Natural Gas supply
- Potable Water Supplies
Arfa Karim Technopolis (Aktp) Project
The past few decades have witnessed the emergence of many cities based on the ‘cluster concept’. Some of the oldest like the Silicon Valley gradually became home to many of the world's largest technology corporations. The existence of Stanford University near the valley also played a major role in the development of the area. The development of AKTP and EC, side by side, follows the same example.

Pakistan is fast becoming the destination for a significant number of international IT/ITeS, educational and training companies seeking to relocate their operations offshore. The ready availability of skilled professionals, an appropriate IT infrastructure, and affordable rates for connectivity result in considerable time and cost-savings for entrepreneurs. Pakistan's IT industry's global share is estimated at US$2.8 billion, and has a skilled workforce of 110,000 English-speaking IT professionals of which 24,000 are engaged in software technology related exports. With nearly 1500 companies, more than 110 have ISO 9001, CMMi, and ISO 27001 certifications. Some of them are listed on KSE, NASDAQ and DIFX. There are so far eleven multinational companies with their 'Software Development Centers' in Pakistan. The telecommunication sector is large enough to facilitate the demands of a booming technology intensive market.

AKTP Features

IT City is named after Arfa Karim, a 17 year old Pakistani computer prodigy, who in 2004 at the age of 9 years became Microsoft Certified Professional (MCP), the youngest in the world until 2008. She expired this year after some complicated brain disease.

AKTP is stretched over an area of 200 acres of in the Education City (EC). Work for construction of boundary and office enclave is already at advance stage.

AKTP offers

- Wide range of fully serviced plots for custom built offices or institutions
- Standard Open Floor Office units in Multiple story buildings
- Multiple Fiber Optic Internet Carriers and Satellite Connections
- Double Circuit Power Supply
- Alternative energy sources
- Telecommunications
- Central Security/ Automated Surveillance Systems
- Food Courts, Convention centers, Expo Halls, Entertainment and sports facilities
- Designated walkways, bikeways and jogging tracks
- Other essential services

AKTP is expected to provide range of facilitation services and help reduce overhead costs for setting up IT businesses such as:

National and Multinational Companies involved with Technical Training, Hardware Manufacturing and assembling, IT Service Providers, Software development companies, Audio/ Video/ Media/ News agencies, Data Warehouse/ Storage, Graphic Design, simulations, Call Centers, Customer Support Centers, Advertising, Telecommunications, Bio-Medical Technology, Technology Investors, Educational Institutions, Trade Missions shall find AKTP a place to be in the future

Cost of Project

Estimated total cost of the project is Pak Rs. 148.7 million. Government of Sindh is seeking a private sector investment for Design Build Finance Operate and Own (DBFOO) intervention.
Bus Rapid Transit System For Karachi
Project Introduction

The main objective behind introducing this project is to curb the transportation issues and improve the traffic flow and the environmental situation. The present road network and the current condition of bus service creates stress and extreme difficulties for the local community of Karachi. Karachi is the largest urban city of Pakistan and involves on an average 13.5 million trips to work. The rise in population has resulted in an increase in travel demands. Hence, the initiative taken to launch this bus service would address the congestion to some extent. This public transport is reliable, comfortable and affordable, comes along with a separate lane for buses. The Bus Transit will run on three corridors initially which extends to 44.5 kms. The estimated project cost is USD $258.50 Million.

Market Analysis and Viability of the Project

BRTS is a huge project that aims to provide people transport services of the same quality that is available in Western countries. The project encompasses the construction of 3 corridors. The BRTS would facilitate the transportation of at least 20,000 passengers on a persons-per-hour-per-direction basis. The BRTS will resemble a network of railway stations because instead of bus stops, there will be station-like compounds. Like railway tracks, no other transport will be allowed to ply on the track of buses under the BRTS.

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Feature Of BRT System

<table>
<thead>
<tr>
<th>No.</th>
<th>Feature Of BRT System</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dedicated Right of way</td>
<td>Increased bus speed</td>
</tr>
<tr>
<td>2</td>
<td>Attractive Infrastructure</td>
<td>Convenient and easily accessible station</td>
</tr>
<tr>
<td>3</td>
<td>Vehicles</td>
<td>At-Level boarding</td>
</tr>
<tr>
<td>4</td>
<td>Fare Collections</td>
<td>Electronic Ticketing</td>
</tr>
<tr>
<td>5</td>
<td>Service</td>
<td>High frequency service</td>
</tr>
<tr>
<td>6</td>
<td>Intelligent Transportation System (ITS)</td>
<td>Track Vehicle locations</td>
</tr>
</tbody>
</table>

Estimated Project Cost:

<table>
<thead>
<tr>
<th>BRT Line</th>
<th>Length (Km)</th>
<th>No. of Stations</th>
<th>Approximate Cost million US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRT Line 1</td>
<td>25</td>
<td>23</td>
<td>146.00</td>
</tr>
<tr>
<td>BRT Line 2</td>
<td>15.5</td>
<td>10</td>
<td>90.50</td>
</tr>
<tr>
<td>BRT Line 3</td>
<td>4</td>
<td>4</td>
<td>23.00</td>
</tr>
<tr>
<td>Total</td>
<td>44.5</td>
<td>37</td>
<td>258.50</td>
</tr>
</tbody>
</table>

Demand Forecast

<table>
<thead>
<tr>
<th>BRT Line</th>
<th>Total No. of Passengers (1,000/day)</th>
<th>Maximum Demand at a section (1,000/day)</th>
<th>Peak Hour/Peak Direction Traffic (per/hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRT Line 1</td>
<td>791.9</td>
<td>114.5</td>
<td>11,500</td>
</tr>
<tr>
<td>BRT Line 2</td>
<td>845.2</td>
<td>337.2</td>
<td>33,700</td>
</tr>
<tr>
<td>BRT Line 3</td>
<td>64.3</td>
<td>23.2</td>
<td>2,300</td>
</tr>
</tbody>
</table>

Feature Of BRT System

<table>
<thead>
<tr>
<th>Route Alignment</th>
<th>Mode</th>
<th>Length (Km)</th>
<th>Structural Configuration</th>
<th>Stations</th>
<th>Total Cost Billion Rs. (Million $)</th>
<th>Const. n Period</th>
<th>Boarding Per Day @ 20 per passenger per trip</th>
<th>Gross Revenue / Day</th>
<th>Operating Cost (35%)</th>
<th>Net Revenue / Day</th>
<th>250 Active Working Days/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surjani to Jami Cloth Market</td>
<td>BRT</td>
<td>25.9</td>
<td>All At-Grade</td>
<td>35</td>
<td>Rs. 9. b ($ 99 million)</td>
<td>2.5</td>
<td>963,372</td>
<td>19,267,440</td>
<td>6,743,604</td>
<td>12,523,836</td>
<td>9,130,959,000</td>
</tr>
<tr>
<td>Malir Can to Regal Chowk</td>
<td>BRT</td>
<td>31.7</td>
<td>All At-Grade</td>
<td>40</td>
<td>Rs. 9.5 b ($ 104.4 million)</td>
<td>2.5</td>
<td>695,831</td>
<td>13,916,620</td>
<td>4,870,817</td>
<td>9,045,803</td>
<td>2,261,450,750</td>
</tr>
<tr>
<td>Dawood Chowrangi to Numaish/Lucky Star</td>
<td>BRT</td>
<td>34.2</td>
<td>All At-Grade</td>
<td>65</td>
<td>Rs. 8.1 b ($ 89 million)</td>
<td>2</td>
<td>1,102,000</td>
<td>22,040,000</td>
<td>7,714,000</td>
<td>14,326,000</td>
<td>3,581,500,000</td>
</tr>
</tbody>
</table>

Characteristic Of BRT In Karachi

- BRT lanes will Run in the Central Median Portion
- Door will be on the Right side of Vehicles (Station will be on the center of Road)
- Pedestrian Stairs/Ramps will be provided for access from Footpath to Station
- 3 Buses will be passed in minute interval
- Peak Hour capacity is 13,000 Passenger per Hour per Direction
- Priority will be given to BRT at Signalized intersection through intelligent Signal System

Current Progress

Topographic survey for both corridors has been done
Traffic Count Survey has been done on All Major Intersection along the both corridors
Social and Environmental surveys has also conducted along both corridors
Keenjhar Lake Resort
Site Introduction

Keenjhar Lake, being a Ramsar Site, is a wetland and Wild Life sanctuary, is one of the largest fresh water lakes in Pakistan and is centrally located in the District of Thatta, which is also an epicenter of major heritage and archeological sites. The lake is situated at a distance of 113 kms from Karachi.

The site is selected for the development has an approximate area of 750 acres with 270 degree water front and an 8 km shoreline. The site offers unique proposition in terms of strategic location, covering aspects of security, exclusivity and natural beauty.

Project Objective

The overriding objective of the Project is to create an eco friendly tourist destination which would provide high quality business and recreational facilities, supported by infrastructure and amenities within a secure and wholesome environment that encourage extended stay at the site. The GoS also intends to develop infrastructure and facilities to further facilitate commuting to the lake. Plans are also under way to plan and develop the Thatta city and district area to meet the gap in infrastructure, utilities and services that has eluded many small urban cities and towns in interior Sindh.

This is not only expected to improve the quality of lives of people who are resident there, but also enable the city to support tourism activities and furthermore it would add to the value of projects at Keenjhar Lake Project would have the two important development components:

<table>
<thead>
<tr>
<th>Item</th>
<th>Resort Zone (US $ Million)</th>
<th>Recreation Zone (US $ Million)</th>
<th>Total (US $ Million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure &amp; Land</td>
<td>21.1</td>
<td>21.1</td>
<td>26.1</td>
</tr>
<tr>
<td>Resort and Hospitality</td>
<td>34.3</td>
<td>34.3</td>
<td>34.3</td>
</tr>
<tr>
<td>Entertainment District</td>
<td>-</td>
<td>-</td>
<td>30.4</td>
</tr>
<tr>
<td>Golf Course</td>
<td>11.1</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>Development Costs</td>
<td>66.5</td>
<td>66.5</td>
<td>101.9</td>
</tr>
<tr>
<td>IDC</td>
<td>12</td>
<td>12</td>
<td>15.6</td>
</tr>
<tr>
<td>Project Costs</td>
<td>78.5</td>
<td>78.5</td>
<td>117.5</td>
</tr>
</tbody>
</table>

Hospitality cum residential component

- Resort Hotel and Chalets;
- Serviced Apartments;
- Conventions;
- Golf Course; and
- Private Residential Farmhouses

A Recreation component

- Amusement Park & Water Park;
- Theme Park;
- Sailing club and boat house, with water-sports and boating facilities;
- Shopping mall, with food court and Cineplex;
- High street shops with local arts and crafts display shops;
- Amphitheatre; and
- Medium cost (2 to 3 star) lodging

Project

Government of Sindh is seeking investment from private investors for development of this resort under PPP framework.
Khajoor Mandi
Introduction

District Khairpur with annual production of around 300,000 metric tons and is the single largest date producing district in Pakistan and yields up to 60% of the dates produced in Pakistan. In addition to the local production, dates produced in other major production centers of the country like Turbat and Panjgoor in Baluchistan and Dhakki in Khyber Pakhtunkhwa are also brought to Khairpur and adjoining Sukkur for wholesaling purposes. Wholesale market is the most important link in the supply chain of any agricultural produce and such large volumes warrant efficient infrastructure to cater to the trading and other logistical needs of the producers and traders however there are negligible facilities for the growers to market their dates in Khairpur.

2. Project Detail

The Khairpur Khajur Mandi Project (KKMP) is for the relocation/construction of a Horticulture Products Wholesale market which will cater to wholesale activities in Dates, Bananas and Vegetable. The Project would compliment Khairpur Special Economic Zone another mega project being built in Khairpur. A well planned market providing suitable infrastructure facilities and relevant amenities and operating under a fair, transparent framework of market governance would become the turning point for revamping the entire supply chain of not only dates but many other horticulture products of northern Sindh

The mandi would be developed under Public Private Partnership mode and contain approx 370 shops (250 shops for date section, 100 shops for fruit and vegetable section, 20 shops for banana section). Related infrastructure like storage facility, auction areas, auction area for growers, cold storage etc shall also be in place also Ancillary facilities like Mosque, 30 room hotel, restaurant, banks, General stores, Admin Block, Police and Fire Station etc shall also be developed. The total land area is approximately 97 acres

3. Project Capacity

Date Section
- 250 Shops with
- Dry Storage
- Cold Storage
- Auction shed for commission agent.
- Auction Shed for growers

Future Development
- 30 Shops with
- Dry Storage
- Cold Storage
- Auction shed for commission agent.
- Auction Shed for growers

Banana Section
- 20 Shops with
- Cold Storage
- Auction shed for commission agent.
- Auction Shed for growers

Future Development
- 04 Shops with
- Dry Storage
- Cold Storage
- Auction shed for commission agent.
- Auction Shed for growers

Vegetable Section
- 100 Shops with
- Cold Storage
- Auction shed for commission agent.
- Auction Shed for growers

Future Development
- 20 Shops with
- Dry Storage
- Cold Storage
- Auction shed for commission agent.
- Auction Shed for growers

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- Cold Storage
- Auction shed for commission agent.
- Auction Shed for growers

3. Project Capacity

Date Section
- 250 Shops with
- Dry Storage
- Cold Storage
- Auction shed for commission agent.
- Auction Shed for growers

Future Development
- 30 Shops with
- Dry Storage
- Cold Storage
- Auction shed for commission agent.
- Auction Shed for growers

Banana Section
- 20 Shops with
- Cold Storage
- Auction shed for commission agent.
- Auction Shed for growers

Future Development
- 04 Shops with
- Dry Storage
- Cold Storage
- Auction shed for commission agent.
- Auction Shed for growers

Vegetable Section
- 100 Shops with
- Cold Storage
- Auction shed for commission agent.
- Auction Shed for growers

Future Development
- 20 Shops with
- Dry Storage
- Cold Storage
- Auction shed for commission agent.
- Auction Shed for growers

Financials

<table>
<thead>
<tr>
<th>Item</th>
<th>PKR  Amount</th>
<th>US $</th>
</tr>
</thead>
<tbody>
<tr>
<td>R.C.C. Buildings (Shops)</td>
<td>468,000,000</td>
<td></td>
</tr>
<tr>
<td>Cold Storage</td>
<td>704,000,000</td>
<td></td>
</tr>
<tr>
<td>Ancillary Buildings</td>
<td>938,840,000</td>
<td></td>
</tr>
<tr>
<td>Auction and dry storage shed</td>
<td>1,455,090,000</td>
<td></td>
</tr>
<tr>
<td>Total External Development</td>
<td>207,498,000</td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td>3,773,428,000</td>
<td>41,466,242</td>
</tr>
</tbody>
</table>
Sukkur Dry Port
Sindh has two seaports of Karachi Port and Port Qasim that form gateway to international trade of Pakistan. However, a major new Dry Port at Sukkur is being planned and designed by Sindh Board of Investment.

A Dry Port at Sukkur will enable businessmen of upper Sindh to engage in exporting and importing of goods without having to travel all the way to seaports. As a result, it will result in reduction in transactions costs, boosting of exports, creation of jobs and overall development of economy of Sindh.

Sukkur has been chosen as the site for Dry Port because of its strategic location. It is the third largest city of Sindh and acts as hub of irrigation system of the province. It is adjacent to Khairpur, which has highest concentration of date production in Pakistan. It is surrounded by rice growing belt from Shikarpur to Larkana where exportable irri-6 and irri-9 varieties are cultivated on mass scale.

The proposed Sukkur Dry Port is expected to initially handle 15000-20000 containers annually with estimated economic value of about Rs 2 bn. The figure is expected to double in 5 to 10 years’ time.

### Site Location

Sukkur Dry Port is proposed to be built near Sukkur Railway Station on a strategically located piece of land that measures 15 acres. SBI is in process of acquiring 26 acres additional land to establish Dry Port on sustainable basis. It is in close proximity to Sukkur Airport and National Highway.

### Project Cost

<table>
<thead>
<tr>
<th>Head</th>
<th>Cost (PKR) in millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>200.00</td>
</tr>
<tr>
<td>Boundary Wall</td>
<td>17.8</td>
</tr>
<tr>
<td>Construction of Structures</td>
<td>180.00</td>
</tr>
<tr>
<td>Weigh bridge</td>
<td>4.0</td>
</tr>
<tr>
<td>Transport infrastructure</td>
<td>100.00</td>
</tr>
<tr>
<td>Machinery and Equipment</td>
<td>100.00</td>
</tr>
<tr>
<td>Other</td>
<td>100.00</td>
</tr>
<tr>
<td>Total</td>
<td>~700</td>
</tr>
<tr>
<td>US $</td>
<td>~8.0 Million</td>
</tr>
</tbody>
</table>

### Development Strategy

Sindh Board of Investment, Government of Sindh intends to establish and operate Sukkur Dry Port on public-private partnership mode on fast-track basis. Government of Sindh is looking for a private investor to Design, Build, Finance, Operate & Transfer the facility under PPP mode.
<table>
<thead>
<tr>
<th>Project Cost</th>
<th>Head</th>
<th>Cost (PKR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td></td>
<td>200.00</td>
</tr>
<tr>
<td>Boundary Wall</td>
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<tr>
<td>Construction of Structures</td>
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<td></td>
<td>100.00</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>100.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>~700</strong></td>
</tr>
</tbody>
</table>

US $ ~8.0 Million

Development Strategy

Sindh Board of Investment, Government of Sindh intends to establish and operate Sukkur Dry Port on public-private partnership mode on fast-track basis. Government of Sindh is looking for a private investor to Design, Build, Finance, Operate & Transfer the facility under PPP mode.
**Project Summary**

- Sindh is the second largest producer of wheat in Pakistan and accounts for c. 16% of the country’s annual wheat output.
- The province’s total wheat production was 3.6m MT in 2010 (2009 – 3.5m MT).
- Over the past few years, GoS has procured c. 30%-40% of the province’s annual wheat output (2010 target - 1.5m MT; 2009 - 1.2m MT).
- At c.0.6m-0.7m MT, the current functional wheat storage capacity in Sindh is insufficient, resulting in an annual storage shortfall of around 500,000 MT-600,000MT (based on 2009 data).
- Inadequate facilities at the existing (formal/informal) storage sites lead to crop damage/wastage causing the government financial loss.
- This project aims to increase the province’s multi-grain storage capacity by 500,000MT, and also introduce international best practices in storage and handling of grain.

**Key Project Objectives**

- Enhancing the province’s food security by increasing long-term storage capacity.
- Introducing latest technology and international best-practices in grain storage and handling.
- Encouraging private sector investment in the agri-industry leading to improved operational efficiencies.
- At c.0.6m-0.7m MT, the current functional wheat storage capacity in Sindh is insufficient, resulting in an annual storage shortfall of around 500,000 MT-600,000MT (based on 2009 data).
- Reducing financial loss to the government from wastage/damage during grain handling and storage.
- Promoting private sector financing of the agri-sector by introducing the concept of ‘Electronic Warehouse Receipts’.
- Successful implementation of the first PPP transaction in the province’s agri-sector.
Introduction

Pakistan’s coal resource potential is estimated to be around 186 billion tonnes out of which 175 billion tonnes are found in Thar — the largest lignite deposit in the world. Thar Coalfield is located 269 km from Karachi port in the south eastern arid zone region of Pakistan which is one of the most peaceful & harmonious area of the country. Thar Coal resources have an estimated potential of generating 100,000 MW of electricity for a period of 300 years; thus, providing an opportunity for large scale mining & power generation over a long period of time.

Quality of Coal at Thar

Thar lignite has a stripping ratio of 6:1 and heating value of 5000 Btu/lb which is better than many lignite resources being successfully used for mining and power generation:

- India’s Neyvelli lignite has a stripping ratio of 7:1 coals and heating value of 5,200 Btu/lb. Total generation based on Neyvelli lignite is more than 2,700 MWs.
- Hungary’s lignite has stripping ratio of 9:1 and heating value of 3035 Btu/Lb and power generation above 1800 MWs
- Germany’s Rhineland lignite having stripping ratio of 4.9:1 and heating value of 3830 Btu/lb and is fueling power generation of more than 10,200 MW.

<table>
<thead>
<tr>
<th>Deposit</th>
<th>Stripping Ratio (m² : t)</th>
<th>Heating Value (MJ/Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thar</td>
<td>6.6 : 1</td>
<td>11.6 (5000 Bru/lb)</td>
</tr>
<tr>
<td>Kosoro</td>
<td>1 : 1</td>
<td>7.8 (3350 Bru/lb)</td>
</tr>
<tr>
<td>Rhenish Area Germany</td>
<td>4.9 : 1</td>
<td>8.9 (3830 Bru/lb)</td>
</tr>
<tr>
<td>Hambach, Germany</td>
<td>6.3 : 1</td>
<td>10.5 (4510 Bru/lb)</td>
</tr>
<tr>
<td>Hungary</td>
<td>9 : 1</td>
<td>7.1 (3050 Bru/lb)</td>
</tr>
<tr>
<td>Greece</td>
<td>10 : 1</td>
<td>5.02 (2159 Bru/lb)</td>
</tr>
</tbody>
</table>

Investment Options & Projects Available

- The Investors may opt for acquiring Blocks for Coal Mining and Power Generation and other uses of coal like briquetting, coal to liquids, gasification etc.
- Presently following Blocks at Thar Coalfield are available with Sindh Coal Authority for allocation.

Policy Incentives

The following set of incentives, concessions and protections are available to facilitate investors for development of indigenous Coal resources of Sindh for Mining and Power Generation.

- GoP has declared Thar Coal fields as Special Economic Zone and Thar Coal Projects are exempted for 30 years from all taxes and 20% USD based IRR is allowed for the Projects.
- 20% (dollar-based) IRR is guaranteed to firms which achieve Financial Close before 31st December, 2015 for Mining & Power Generation based on indigenous coal and additional 0.5% i.e. 20.5% IRR for firms which achieve Financial Close by 31st December, 2014.
- Zero percent customs duties on import of coal mining equipment and machinery including vehicles for site use.
- Exemption on withholding tax to shareholders on dividend for initial 30 years.
- Exemption on withholding tax on procurement of goods and services during project construction and operations.
- Exemption for 30 years on other levies including Special Excise Duty, Federal Excise Duty, WPPF and WWF.

The Return on Equity will be allowed in US dollars only. Return on Equity based on other currencies would be converted to equivalent US dollars amount at reference exchange rate and adjusted for variations in US$/Rs rates as presently being done for return on foreign component.

<table>
<thead>
<tr>
<th>Block</th>
<th>Total Lignite Reserves (bn tons)</th>
<th>Area (sq. km)</th>
<th>Moisture (%)</th>
<th>Sulphur (%)</th>
<th>Ash (%)</th>
<th>Heating Value (Btu/lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VII</td>
<td>2.175</td>
<td>100</td>
<td>48.27</td>
<td>1.16</td>
<td>8.03</td>
<td>5440</td>
</tr>
<tr>
<td>VIII</td>
<td>3.035</td>
<td>100</td>
<td>49.57</td>
<td>1.44</td>
<td>7.78</td>
<td>5302</td>
</tr>
<tr>
<td>IX</td>
<td>2.862</td>
<td>100</td>
<td>48.60</td>
<td>0.96</td>
<td>5.92</td>
<td>5561</td>
</tr>
<tr>
<td>X</td>
<td>2.947</td>
<td>100</td>
<td>48.99</td>
<td>1.17</td>
<td>6.35</td>
<td>4840</td>
</tr>
</tbody>
</table>
Wind Energy
Introduction

Sindh possesses considerable potential (50,000 MW) of electricity generation through wind energy in southern Sindh. The Gharo – Jhimpir wind corridor is 60 kms wide and 180 kms long with monthly average wind speeds exceeding 7-8 meters per second.

Renewable Energy Policy

Some of the incentives provided for investors in the Renewable Energy Policy 2006 are listed below:

- Specific purpose land available for the list of the project to eligible investors an extremely attractive annual rentals US$ 1 per sq yard/annum for direct impact area (foot prints)
- Upfront tariff of 14.67 cents / KWH for all those investors who are ready to complete projects in 18 month time (CoD)
- Long term (20 year) throughput agreements with the Power Purchaser i.e. WAPDA backed by GOP through, Implementation Agreement & Sovereign Guarantee
- Guaranteed purchase of all electricity produced by the project for the entire concession period (20 years).
- Comprehensive coverage to investors against political risk and risk of change of Law through Force Majeure provisions
- Guarantee of buy back of the facility in case of termination of the project
- Wind data available from various sources accounts for 5 years, enabling a great degree of accuracy for the purpose of calculation of wind speed, direction, density, frequency, etc
- Coverage of Wind Speed Risk (for those who does not opt for upfront tariff)
- Comprehensive tariff regime on a cost plus basis
- Fiscal incentives through a zero tax/duty regime. Only contribution to national exchequer would be through a 7.5% withholding tax on dividends declared across the life of the project
- Guaranteed Attractive Return on Equity (“ROE”) – 17% to 18% - offered under the NEPRA tariff guidelines
- Certified Emission Reductions (CERs) available on a shared basis with the Government of Pakistan
- Environmental issues facilitation by AEDB to investors including EIA and relevant Government permissions.

On Going Projects

With attractive incentive package announced by Government of Pakistan an upsurge in the interest of investors have been witnessed at present 26 projects with installed capacity of 1800 MW are in progress:

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Name of Project</th>
<th>Capacity</th>
<th>Cost</th>
<th>Location</th>
<th>Commencing Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NBT/ Malakoff</td>
<td>500 MWs</td>
<td>$1.2 Billion</td>
<td>Thatta</td>
<td>June, 2013</td>
</tr>
<tr>
<td>2</td>
<td>Hydro China</td>
<td>300 MWs</td>
<td>$750 Million</td>
<td>Jamshoro</td>
<td>December, 2013</td>
</tr>
<tr>
<td>3</td>
<td>United Energy Group</td>
<td>150 MWs</td>
<td>$375 Million</td>
<td>Jhampir-Thatta</td>
<td>December, 2013</td>
</tr>
<tr>
<td>4</td>
<td>Fauji Fertilizer</td>
<td>50 MWs</td>
<td>$135 Million</td>
<td>Thatta</td>
<td>November, 2012</td>
</tr>
<tr>
<td>5</td>
<td>China Three</td>
<td>150 MWs</td>
<td>$400 Million</td>
<td>Thatta</td>
<td>June, 2012</td>
</tr>
<tr>
<td>6</td>
<td>Fauji Foundation</td>
<td>100 MWs</td>
<td>$280 Million</td>
<td>Thatta</td>
<td>December, 2013</td>
</tr>
<tr>
<td>7</td>
<td>Zorla</td>
<td>56.4 MWs</td>
<td>$150 Million</td>
<td>Thatta</td>
<td>March, 2013</td>
</tr>
<tr>
<td>8</td>
<td>Dawood Engineering</td>
<td>50 MWs</td>
<td>$130 Million</td>
<td>Thatta</td>
<td>December, 2013</td>
</tr>
<tr>
<td>9</td>
<td>SARBIST Energy</td>
<td>100 MWs</td>
<td>$260 Million</td>
<td>Gharo-Thatta</td>
<td>December, 2013</td>
</tr>
<tr>
<td>10</td>
<td>Other (15 projects)</td>
<td>500 MWs</td>
<td>$1.3 Billion</td>
<td>Thatta</td>
<td>June, 2014</td>
</tr>
</tbody>
</table>

Joint Venture on Wind Energy Projects

To take the technology handle on Energy Projects, Government of Sindh intends to partner with International firms for establishment of at least 500 MWs wind power project. Government of Sindh will inject land as an equity share and also some seed amount and will also stand guarantee for administration and logistic support at provincial as well as federal level.

| Project Cost | $1.2 Billion |
| Capacity     | 500 MWs      |
| Location     | Thatta or Jamshoro |
| Return of Equity | 17% - 18% |
| Upfront tariff | 14.667 cents/KWh |
| Power purchase guarantee of 20 years by WAPDA/NEPRA |
Run of the River Hydro Power Projects
Run of the River Hydro Power Projects

Given the context of an acute shortage of electricity in Pakistan in general and in the Province of Sindh in particular, and realizing the need for adequate power availability for economic development, the Power Department, Government of Sindh decided to explore the possibility of generating electricity, tapping the vast network of barrages and canals in Sindh.

Under the provisions of the 2002 Power Policy, Independent Power Projects (IPPs) above 50 MW could only be initiated at the Federal level whereas 50 MW or below can be initiated at the provincial level. However, the constitution gives the right to provinces to implement projects of any size if the provinces are themselves involved in the projects. Therefore, a province can process and implement a project bigger than 50 MW, if it owns the project entirely or it develops a project in a Public Private Partnership mode. Government of Sindh intends to explore the hydropower resources available in Sindh and initiate Run of the River Hydro Power Projects under Public Private Partnership mode.

Objectives

The Government of Sindh intends to achieve following objectives from the Run of River Hydro Power Generation Project:

a) Bridge, as far as possible, the demand supply gap of electricity in the province;

b) Provide, as far as possible, the less expensive and environmental friendly electricity to the people of the province;

c) Share the responsibility with Federal Government of finding new avenues of power generation, thereby releasing some pressure on the Federal Government;

d) Optimally utilize the water resources of the province while maintaining the ecological and environmental balances.

Hydro Power Potential

Sindh has an estimated hydropower potential of 153 MW based on various sites identified along the Sindh canal network. The power generation potential varies from 2.29 MW at Rohri to 33 MW at Guddu Barrage.

The local technical consultants have investigated feasibility of dams and water retaining structures in the Kirther range of Sindh. This study indicated that due to the non-perennial flows only few of the sites in this region are suitable for run-of-river hydropower installation. A number of locations, like NaiGaj Dam, may be considered for power generation as part of dam and storage reservoir project, but not as independent Run of the River project.

It is most likely that sites on the canal head-works and fall regulators will be viable for the development of run-of-river hydroelectricity as a PPP project. Studies have identified sites on the Rohri and Nara Canals as likely options.
Solar Street Light Initiative
4. Low / no maintenance

- Solar Energy systems are virtually maintenance free and will last for decades.
- Once installed, there is hardly minor recurring costs.
- They operate silently, have no moving parts, do not release offensive smells and do not require you to add any fuel.
- More solar panels can easily be added in the future whenever needs grow.

Solar Panel

Its task is to convert the sun's energy into electricity. Different sizes and power outputs are available. They have to be carefully chosen for the desired application. Solar panels should be able to withhold and deliver in extreme weather conditions. Some are even designed unbreakable (vandal proof), others will work well in overcast weather.

Projected Economic Feasibility

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of electricity to CDGK per unit per month</td>
<td>Rs.1165/-</td>
</tr>
<tr>
<td>Monthly electricity bill paid to KESC after down time</td>
<td>Rs.50. million</td>
</tr>
<tr>
<td>Number of 135 watts lights to be replaced</td>
<td>60,000 Nos</td>
</tr>
<tr>
<td>Number of 250 watts &amp; above lights to be replaced</td>
<td>60,000 Nos</td>
</tr>
<tr>
<td>Average cost of solar light including solar panel, heavy duty battery and solar PV charge controller for each light</td>
<td>Rs.200,000/-</td>
</tr>
<tr>
<td>Estimated Cost of complete replacement</td>
<td>US $ 300/- million</td>
</tr>
<tr>
<td>Repayment schedule</td>
<td>@ Rs 50 million per month @ on US $ = Rs.85</td>
</tr>
</tbody>
</table>

Advantages of solar energy lights

The prime advantages of the sola street lights are:-

1. Saves money and energy
   - After the initial investment, the energy from the sun is practically FREE. So it will save you money on electricity bill.
   - The use of solar street lights will lower the cost of public lighting cost.
   - Financial incentives are available from the government that will reduce the cost.
   - It's not affected by the supply and demand of fuel and is therefore not subjected to the ever-increasing price of gasoline.
   - The energy to be saved from solar street lights can be used for industrial growth.

2. Environmentally friendly
   - Solar Energy is clean, renewable and sustainable, protecting our environment.
   - Therefore Solar Energy does not contribute to global warming, acid rain or smog.
   - By not using any fuel, Solar Energy does not contribute to the cost and problems of the recovery and transportation of fuel or the storage of radioactive waste.

3. Independent/ semi-independent
   - A Solar Energy system can operate entirely independent, not requiring a connection to a power or gas grid at all. Systems can therefore be installed in anywhere, making it more practical and cost-effective than the supply of utility electricity to a new or existing site.
   - The use of Solar Energy reduces our dependence on foreign and/or centralized sources of energy, influenced by natural disasters or international events and so contributes to a sustainable future.
   - Solar Energy supports local job and wealth creation, fuelling local economies.

Solar street lights were initially used mainly in third world countries or remote and off grid areas, where electricity is not always available. Today's solar energy technology has evolved and solar projects are appearing in both developed and developing countries. Street lights using solar technology can be quickly and easily deployed. Well chosen, sola powered street lights will give years of reliable and maintenance-free operation.
Mango Processing Plant
Company Profile:
The Government of Sindh is interested in seeking investment for export based value addition/processing in the following areas:
- Horticulture  - Dairy  - Livestock  - Poultry
- Fisheries/Aquaculture  - Floriculture  - Storage/Cool Chain

The objective is to establish Food Processing Plant(s) for some of its strategic Agro products such as Dates; Guava; Mango; Tomato; Onion; Chillies and other vegetables at strategic locations such as Larkana for Guava & Tomato; Khairpur for Dates and Mirpurkhas region for Mango & Chillies as well as on the location of Agro Export Processing Zone near Karachi.

Project Introduction:
Pakistan is one of the world’s largest mango producers with an annual crop of around 1.73 million tones out of which Sindh produces 390,486 tones and exports 61,632 tones of mangoes. Mango pulp is a popular product in Pakistan and abroad Therefore, this project is an attractive investment opportunity.

Process Flow for Mango Pulping is provided below:
4. De-stoning  5. Refining
6. Acidification of pulp  7. Pasteurization
8. Chemical Preservation (Storage at 5C)
9. Freezing (Storage at -18C)

Market Analysis & Viability of the Project:
Mango pulps are important value added products having demand in both local and export markets. The local market of fruit juices, nectars and drinks has been growing at a very high rate during the past five years. Consequently, the demand for fruit pulps has also increased during this period.

Location:
Location of the facility between Hyderabad and Tando Allahyar will ensure proximity to raw material as well as to sea port of Karachi.

Financial Details & Requirements with ROI Analysis:

Project Cost:

<table>
<thead>
<tr>
<th></th>
<th>Rs.</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cost of land and building</td>
<td>30,100,000</td>
<td>334,444</td>
</tr>
<tr>
<td>Total machinery and equipment cost</td>
<td>255,000,000</td>
<td>2,611,111</td>
</tr>
</tbody>
</table>

Product Cost (mango pulp)

| Cost (Rs/ton pulp) | Rs. 58,470 | $ 650 |

Profitability

<table>
<thead>
<tr>
<th>Hours per day</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit processed per day (@ 10 tons per hr)</td>
<td>160 tons</td>
</tr>
<tr>
<td>Pulp yield (from Sindri)</td>
<td>62%</td>
</tr>
<tr>
<td>Pulp produced per day</td>
<td>99.2 tons</td>
</tr>
<tr>
<td>Number of production days</td>
<td>50</td>
</tr>
<tr>
<td>Total pulp produced</td>
<td>4,960 tons</td>
</tr>
<tr>
<td>Mango pulp price</td>
<td>Rs. 75,000 per ton</td>
</tr>
<tr>
<td>Revenues</td>
<td>Rs. 372,000,000</td>
</tr>
<tr>
<td>Cost</td>
<td>Rs. 290,011,200</td>
</tr>
<tr>
<td>Gross Profit</td>
<td>Rs. 81,988,800</td>
</tr>
</tbody>
</table>
Guava Pulp & Tomato Paste Processing Plant
Project Introduction

Guava is the fourth largest fruit of Sindh; grown in middle and upper districts of the province. In Sindh, in the year 2008, total cultivated area for guava was 24,000 acres; producing 70,000 tons of fruit. The production of tomato in Sindh was 29,826 tones and yield per hectare in Sindh was 5,084 Kgs.

Process for Guava Pulp and Tomato Paste:

- Fruit Sorting
- Heating
- Chemical Processing
- Washing
- Refining (0.7mm sieve)
- Aseptic Processing
- Chopping
- Storage

Market Analysis & Viability of the Project

The major export of Guava from Pakistan are to UAE, UK, Saudi Arabia, Qatar whereas Canada is the largest importer of guava from Pakistan accounting for 26% of the total guava exports.

Location:

Major share of the production is claimed by two districts; Larkana and Nausheroferoz.

---

Financial Details & Requirements with ROI Analysis

**Project Cost:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost (Rs)</th>
<th>Cost ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total machinery and equipment cost</td>
<td>235,000,000</td>
<td>2,611,111</td>
</tr>
<tr>
<td>Total cost of land and building</td>
<td>30,100,000</td>
<td>334,444</td>
</tr>
<tr>
<td>Cost (Rs/ton pulp)</td>
<td>44,920</td>
<td>500</td>
</tr>
</tbody>
</table>

---

**Profitability**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value (Rs)</th>
<th>Value ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours per day</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Fruit processed per day (10 tons per hr)</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Pulp yield</td>
<td>62%</td>
<td></td>
</tr>
<tr>
<td>Pulp produced per day</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Number of production days</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Total pulp produced</td>
<td>2,560</td>
<td></td>
</tr>
<tr>
<td>Guava pulp price</td>
<td>50,000</td>
<td>555</td>
</tr>
<tr>
<td>Revenues</td>
<td>128,000,000</td>
<td>1,422,222</td>
</tr>
<tr>
<td>Cost</td>
<td>114,995,200</td>
<td>1,277,724</td>
</tr>
<tr>
<td>Gross Profit</td>
<td>13,004,800</td>
<td>144,498</td>
</tr>
</tbody>
</table>
Dates Processing Plant
Market Analysis & Viability of the Project

The major countries importing both fresh and dried dates from Pakistan are India, USA, UK, Canada, Germany, Denmark, Malaysia and Indonesia. Pakistan has the capacity to supply greater volume of high quality dates and by-products such as pitted/un-pitted whole dates, press dates bricks, dates syrup and dates paste.

Dates for export are mainly sourced from Khairpur and Rohri, Sindh and from Turbat, Baluchistan. At present, exporters of Pakistan are getting a price of about US$ 660 per ton for fresh dates and US$ 350 per ton for dried dates whereas Israel, France and Tunisia are earning US$ 4480 per ton, US$ 2502 per ton and US$ 2008 per ton of their dates respectively, which depicts a large price differential.

Pakistan, despite being a major dates producing country, has not realized its export potential. This highlights the vast potential of value addition in the dates sector by making appropriate technological interventions in pre & post-harvest management and processing.

Process for Dates:

- Rural Collection Center
- Central Processing Plant
- Box Dumping / Receiving Area
- Shaker Feed
- Inspection
- Washing
- Drying
- Grading
- Fumigation
- Packaging
  - Processing Line
  - Date Paste Line
  - Dried Dates Line

Location

Major share of the production is claimed by Khairpur & adjoining areas.

Financial Details & Requirements with ROI Analysis:

Project Cost on 25,000 Metric Tons Capacity Annually

<table>
<thead>
<tr>
<th></th>
<th>Total machinery and equipment cost</th>
<th>Total cost of buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rs. 546,018,000</td>
<td>Rs. 409,500,000</td>
</tr>
<tr>
<td></td>
<td>$ 6,198,000</td>
<td>$ 4,500,000</td>
</tr>
</tbody>
</table>

Product Average Cost (Fresh Dates/Dried Dates/ Date Paste/Date Syrup/Chopped & Pitted Dates)

| Raw Material Cost Assumptions (Rs/ton) | Rs. 22,750 | $ 250 |

Profitability

<table>
<thead>
<tr>
<th>Hours per day</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit processed per day (@ 4 tons per hr)</td>
<td>80 tons</td>
</tr>
<tr>
<td>Volume With Yield Loss (20% Yield Loss of 25,000)</td>
<td>5,000 tons</td>
</tr>
<tr>
<td>Dates produced per day</td>
<td>64 tons</td>
</tr>
<tr>
<td>Number of production days</td>
<td>26</td>
</tr>
<tr>
<td>Total Dates processed yearly</td>
<td>25,000 tons</td>
</tr>
</tbody>
</table>

Products Average price Assumptions.

| Rs. 79,626 per ton | $ 875 |
| Rs. 1,592,500,000 | $ 17,500,000 |
| Rs. 1,088,087,000 | $ 11,957,000 |

Operating Income.

| Rs. 504,413,000 | $ 5,543,000 |

Margin %

46 %
Controlled Atmospheric Cold Storage Plant
Pakistan is predominantly agrarian society and stands in world top ten producers ranking of fresh fruits & vegetables. Pakistan produces a variety of fruits and vegetables like apple, mango, dates, banana, cherries, apricot, pomegranate, peas, carrot, tomato, onion & potatoes etc.

It is estimated that in Horticulture, 35% of fruits & vegetables produced in the country are lost because of poor storage conditions every year. This loss is estimated to be of US $ 800 million approx.

Fruits and Vegetables require specialized post harvest treatment, appropriate temperature and relative humidity for their storage. Establishment of cold storage provides refrigerated storage and preservation facilities for several fruits, vegetables & flowers. Because of technology advancements and logistic strategies, the cold storage will ensure increased availability and improved quality of high value fruits and vegetables for both export and local sale, which would otherwise perish or deteriorate.

The existing Cold Storages are generic in nature i.e. all the commodities are stored at uniform temperatures. There is a dire need of storage facilities, which can facilitate the proper storage of various commodities at their optimum temperatures. This shows that a lot of market potential exists for cold storage facilities in Pakistan and especially other regions e.g. Sindh therefore, it needs to be exploited.

### Site Location

The biggest advantage of this proposed CA cold storage is extremely ideal commercial location of (AEPZ) Agro Export Processing Zone adjusting to fruit vegetable wholesale market giving easy access to the domestic traders and certainly for the exporters of international high-end markets.

### Project Cost

<table>
<thead>
<tr>
<th>Head</th>
<th>Cost (PKR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>15,165,000</td>
</tr>
<tr>
<td>Pre-engineered Building &amp; Civil Work</td>
<td>71,642,000</td>
</tr>
<tr>
<td>Plant &amp; Machinery</td>
<td>253,835,000</td>
</tr>
<tr>
<td>Fork Lifters &amp; Vans</td>
<td>32,988,000</td>
</tr>
<tr>
<td>Office Equipment</td>
<td>2,761,000</td>
</tr>
<tr>
<td>Furniture &amp; Fixture</td>
<td>1,941,000</td>
</tr>
<tr>
<td>Pre operational expenses,</td>
<td>3,000,000</td>
</tr>
<tr>
<td>Utilities Charges, &amp; contingencies</td>
<td>3,356,000</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td><strong>384,688,000</strong></td>
</tr>
<tr>
<td><strong>Working Capital</strong></td>
<td></td>
</tr>
<tr>
<td>Working capital Salaries etc</td>
<td>1,656,000</td>
</tr>
<tr>
<td>Stock &amp; Inventory</td>
<td>2,480,000</td>
</tr>
</tbody>
</table>

### Development Strategy

The total project estimated cost amounts to Rs. **389 million equivalent to USD 4.32 (M) approximately** and the facility is expected to be completed in a short period of 6 months.

### Project Returns

<table>
<thead>
<tr>
<th>IRR</th>
<th>17.95 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pay Back Period</td>
<td>5.57 Years</td>
</tr>
</tbody>
</table>
Rationale

Agriculture continues to be the single largest sector of the rural economy providing livelihood to 66% of county’s population of 180 million people. It accounts for 20.9% of the GDP and employing 43.4 percent of the total work force in the country.

Drip irrigation is urgently needed in the province in order to increase crop yield and conservation of irrigation water. It is the targeted intelligent application of water, fertilizer and chemicals that when used properly can provide great benefits such as

• Increase Revenue from increased yields
• Increase Revenue from increased quality
• Decrease in water costs
• Decrease in Labor costs
• Decrease in Energy, Fertilizer and Pesticide Costs
• Improved Environment

Project Features

The proposed project entails setting up of a Drip irrigation Pipe manufacturing Unit Based on Linear Low Density Polyethylene (LLDPE) pipes

Drip irrigation system includes the Main line, Sub main line, Laterals & Emitters/Drippers:

1. Mainline is made up of PVC & HDPE which are of 65 mm diameter and above
2. Sub main conveys the water uniformly to lateral line and are made up of PVC, HDPE or LDPE which are of diameter 32mm to 75 mm
3. Laterals convey water uniformly by means of drippers or emitters and are made up of LDPE or LLDPE and are of internal diameter 10,12 & 16 mm.
4. Emitters reduce the pressure head 0.5 to 1.5 atmospheres to zero atmospheres

The proposed project will be capable of making drip irrigation pipe with manufactured sizes of Dia 32mm to 75 mm

• Flexibility: LLDPE pipes have specific elastic properties and can take a wide range of curvatures

Long lengths can be transported as coils

• They are corrosion proof
• Suitable for handling most type of corrosive acids and alkalies
• Offer excellent chemical resistance properties.

This project can be undertaken by the private sector or through a joint venture with the Government of Sindh.
E Beam is the technology for food disinfection and denotes a safe Environment for Human Beings. E-Beam technology Develop “safe and Hygienic product for Import, Export and Domestic Market”.

The radiation system evolved in this E-Beam Technology is composed mainly of accelerator, pulse transformer, modulator cabinet, control console, chillers and transmission system, including the cables and hoses.

The Product is exposed to radiant energy and it damages the molecules of the harmful organism and control insects, parasites and pathogens, reduce spoilage of the product. It inhibits sprouting, delay ripening and extend shelf-life for certain fruits and vegetables.

### Eligible Commodities
- All Fruits and vegetables
- Grains, Rice
- Dairy products
- Fish and Meat
- Water
- Medicines & a range of other products

### Advantages
- Extensive shelf life
- Cost Effective product
- Enhance and improve market access with consistent product quality
- Safe system
  - Insect diffusion
  - Delay of ripening
  - Extension in self life
  - Inactivation of spoilage and pathogenic bacteria
  - Improve technical properties of food.

### Cost Items

<table>
<thead>
<tr>
<th>Cost Items</th>
<th>Amount (Mil. Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land (1.25 acres)</td>
<td>25.00</td>
</tr>
<tr>
<td>Building &amp; Civil Work</td>
<td>90.00</td>
</tr>
<tr>
<td>Plant Machinery &amp; equipment</td>
<td>425.00</td>
</tr>
<tr>
<td>Office Equipment</td>
<td>2.00</td>
</tr>
<tr>
<td>Vehicles</td>
<td>3.00</td>
</tr>
<tr>
<td>Contingencies @ 1%</td>
<td>3,356,000</td>
</tr>
<tr>
<td>Working capital</td>
<td>10.00</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>560.45</strong></td>
</tr>
</tbody>
</table>

Net Cost in US $ ~ 6.5 Million

### Financial performance

- Project Growth: 10%
- Pay back period: 3.5 years
- IRR: 21%

This can be undertaken in the Agro Export Processing Zone located near Karachi where developed land is available.
Project Introduction

Pakistan is gearing up to overhaul its dairy and meat processing industries. In this regard, the Sindh government is establishing a dairy village and meat processing zone in Bhambore in Sindh to target the local and export markets. The zone is located at 58 km from the Karachi airport and 78 km from the Karachi port.

The project aims at development of modern, self-sufficient dairy and meat processing facilities. The project is spread over 1300 acres and can be extendable up to 2600 acres. The project is planned to have chilling units, feed mills, a livestock and fodder market, slaughterhouses with meat-processing units. The dairy village and meat-processing zone would have its own drainage and waste disposal system along with a sewage treatment plant. A 16 km access road linking the facility with the National Highway will be built as part of the project.

Market Demand and Viability Analysis

The meat demand for Pakistan domestic market is growing at a rate of 2.73% for Beef, 2.90% for mutton and 6.10% for poultry. The projected supply demand gap for domestic consumption is

<table>
<thead>
<tr>
<th>Products</th>
<th>2003</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Supply</td>
<td>Demand</td>
</tr>
<tr>
<td>Milk</td>
<td>27800</td>
<td>31320</td>
</tr>
<tr>
<td>Beef</td>
<td>1050</td>
<td>1210</td>
</tr>
<tr>
<td>Mutton</td>
<td>700</td>
<td>800</td>
</tr>
</tbody>
</table>

There is a good potential and opportunity for Pakistan to break the potential meat markets in particular the "Halal" meat markets of Middle East.

The Potential supply and demand gap for Middle East countries is:

<table>
<thead>
<tr>
<th>Country</th>
<th>Production</th>
<th>Consumption</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saudia Arabia</td>
<td>25,630</td>
<td>75,630</td>
<td>50,000</td>
</tr>
<tr>
<td>Egypt</td>
<td>440,000</td>
<td>533,000</td>
<td>93,000</td>
</tr>
<tr>
<td>Bahrain</td>
<td>1,440</td>
<td>4,600</td>
<td>3,220</td>
</tr>
<tr>
<td>Oman</td>
<td>4,148</td>
<td>18,000</td>
<td>13,852</td>
</tr>
<tr>
<td>UAE</td>
<td>9,500</td>
<td>43,185</td>
<td>33,658</td>
</tr>
</tbody>
</table>

PROJECT DETAILS

- 100 Plots of 5 acres each for dairy production
- 100 Plots of 3 acres each meat production
- Self-Sustaining facility in respect of Energy & Winds

Project Capacity

- Meat: 330-350 Metric Tons per quarter
- Dairy: 320-400 Metric Tons of Cow/Buffalo Milk daily (estimated at 8-10/day/animal)

Estimated cost: Rs 4,995 Billion (US $ 54.9 Million)

Government of Sindh is looking for investors for investing in this zone.
Halal Meat Park
**HALAL MEAT PARK**

Halal Meat Park is a community of Slaughtering / Cleaning / Processing / Certification and Packaging located on a common property. In essence, it is a centre of infrastructure excellence, and has been regarded as one of the building blocks of the Halal Meat industry. In addition to high quality infrastructure, it also houses a wide array of hygienic facilities and uses an integrated approach to maintaining standards as defined by International Halal Meat Certification.

With an animal population of over 50 million, Pakistan suffers from low productivity compared to global players. Pakistan has three times the animals than Germany but yields one fifth of Germany’s and one third of productivity compared to global average. Historically North America (USA & Canada), South America (Brazil, Argentina and Uruguay), Oceanic Countries (Australia and New Zealand) and Europe (British Islands and Continental Europe) are the major meat producing regions and there is good potential and opportunity for Pakistan to break the potential meat markets in particular the “Halal” meat markets of Middle East

### Project Capacity

<table>
<thead>
<tr>
<th>MILK</th>
<th>MEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>320-400 Metric Tons of Cow / Buffalo Milk daily (estimated at 8-10/day/animal)</td>
<td>330-350 Metric Tons per quarter</td>
</tr>
</tbody>
</table>

**Potential of Meat, Meat Processing, Supply and Marketing**

The meat demand for Pakistan Domestic market is growing at a rate of 2.73% for Beef, 2.90 % for mutton and 6.10 % for poultry. The projected supply demand gap for domestic consumption is:

<table>
<thead>
<tr>
<th>Meat Type</th>
<th>Production in Million tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef</td>
<td>62</td>
</tr>
<tr>
<td>Mutton</td>
<td>12</td>
</tr>
<tr>
<td>Poultry</td>
<td>77</td>
</tr>
<tr>
<td>Total</td>
<td>151</td>
</tr>
</tbody>
</table>

Historically North America (USA & Canada), South America (Brazil, Argentina and Uruguay), Oceanic Countries (Australia and New Zealand) and Europe (British Islands and Continental Europe) are the major meat producing regions and there is good potential and opportunity for Pakistan to break the potential meat markets in particular the “Halal” meat markets of Middle East.

### The Potential supply and demand gap for Middle East countries:

<table>
<thead>
<tr>
<th>Country</th>
<th>Production</th>
<th>Consumption</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
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<td>25,630</td>
<td>75,630</td>
<td>50,000</td>
</tr>
<tr>
<td>Egypt</td>
<td>440,000</td>
<td>533,000</td>
<td>93,000</td>
</tr>
<tr>
<td>Baharin</td>
<td>1,440</td>
<td>4,600</td>
<td>3,220</td>
</tr>
<tr>
<td>Oman</td>
<td>4,148</td>
<td>18,000</td>
<td>13,852</td>
</tr>
<tr>
<td>UAE</td>
<td>9,500</td>
<td>43,185</td>
<td>33,685</td>
</tr>
</tbody>
</table>

The actual imports of Beef in these potential countries is:

<table>
<thead>
<tr>
<th>Country</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saudia Arabia</td>
<td>51,218</td>
<td>52,122</td>
</tr>
<tr>
<td>Egypt</td>
<td>140,240</td>
<td>113,915</td>
</tr>
<tr>
<td>UAE</td>
<td>37,263</td>
<td>30,765</td>
</tr>
<tr>
<td>Kuwait</td>
<td>71</td>
<td>144</td>
</tr>
<tr>
<td>Malaysia</td>
<td>93,595</td>
<td>93,595</td>
</tr>
<tr>
<td>Philippines</td>
<td>33,431</td>
<td>33,431</td>
</tr>
<tr>
<td>Indonesia</td>
<td>30,605</td>
<td>30,605</td>
</tr>
<tr>
<td>Singapore</td>
<td>21,856</td>
<td>21,856</td>
</tr>
<tr>
<td>Total</td>
<td>244,721</td>
<td>244,721</td>
</tr>
</tbody>
</table>

Source: US Dept of Agriculture - 2005

### Cost of Meat Processing Plant Project

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Item</th>
<th>Cost (PKR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cost of construction of plant building</td>
<td>100 Million</td>
</tr>
<tr>
<td>2</td>
<td>Slaughter House Machinery &amp; Equipment</td>
<td>156 Million</td>
</tr>
<tr>
<td>3</td>
<td>Cold Storage/Chilling/Refrigerated Trucks</td>
<td>26 Million</td>
</tr>
<tr>
<td>4</td>
<td>Vehicle</td>
<td>26 million</td>
</tr>
<tr>
<td>5</td>
<td>Other Plant and Machinery including Artificial Insemination</td>
<td>26 Million</td>
</tr>
<tr>
<td>6</td>
<td>Others</td>
<td>26 Million</td>
</tr>
<tr>
<td>7</td>
<td>Working Capital</td>
<td>25 Million</td>
</tr>
</tbody>
</table>

Total Cost of Project in Rs. 500 Million
Total Cost of Project in USD $ 5.5 Million
Project IRR: 20-22%
Payback: 3-5 years

Government of Sindh is looking to offer land for establishment of Halal Meat Park in Sukkur (North South) and in Thatta near Karachi.

---

**Resource:**

Source: MINFA Thousand heads

Source: US Dept of Agriculture - 2004

**Content:**

- **Estimated Livestock Population, Pakistan**

<table>
<thead>
<tr>
<th>Year</th>
<th>Cattle</th>
<th>Buffaloes</th>
<th>Sheep</th>
<th>Goat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>21,192</td>
<td>21,242</td>
<td>23,800</td>
<td>44,183</td>
</tr>
<tr>
<td>1999</td>
<td>21,592</td>
<td>22,032</td>
<td>23,938</td>
<td>45,775</td>
</tr>
<tr>
<td>2000</td>
<td>22,004</td>
<td>22,669</td>
<td>24,084</td>
<td>47,426</td>
</tr>
<tr>
<td>2001</td>
<td>22,424</td>
<td>23,335</td>
<td>24,236</td>
<td>49,140</td>
</tr>
<tr>
<td>2002</td>
<td>22,858</td>
<td>24,030</td>
<td>24,398</td>
<td>50,917</td>
</tr>
<tr>
<td>2003</td>
<td>23,303</td>
<td>24,754</td>
<td>24,566</td>
<td>52,763</td>
</tr>
<tr>
<td>2004</td>
<td>23,758</td>
<td>25,512</td>
<td>24,744</td>
<td>54,678</td>
</tr>
<tr>
<td>2005</td>
<td>25,500</td>
<td>26,295</td>
<td>24,923</td>
<td>55,665</td>
</tr>
<tr>
<td>2006</td>
<td>29,558</td>
<td>27,345</td>
<td>25,488</td>
<td>56,789</td>
</tr>
<tr>
<td>2007</td>
<td>30,673</td>
<td>28,165</td>
<td>26,794</td>
<td>58,245</td>
</tr>
</tbody>
</table>

Source: MINFA

**Products**

<table>
<thead>
<tr>
<th>Year</th>
<th>Beef</th>
<th>Mutton</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>22,669</td>
<td>100</td>
</tr>
<tr>
<td>2004</td>
<td>23,084</td>
<td>103</td>
</tr>
<tr>
<td>2005</td>
<td>24,084</td>
<td>143</td>
</tr>
<tr>
<td>2006</td>
<td>24,744</td>
<td>147</td>
</tr>
<tr>
<td>2007</td>
<td>26,794</td>
<td>210</td>
</tr>
</tbody>
</table>

Source: World Trade Atlas

**Total Cost of Project in USD $ 5.5 Million**

**Project IRR: 20-22%**

**Payback: 3-5 years**

Page 49
SHRIMP AQUACULTURE FARM AT THATTA
1. INTRODUCTION

The province of Sindh has a premier position with regard to fisheries resources as its possesses 71% of total marine resources of the country along with 350 km long coastal belt, covering about 0.3 million hectares of Brackish water area comprising a network of creeks, low lying and backwaters. A great variety of indigenous fish, shrimp, crab and shellfish etc commercial importance dwell in these water areas. The coastal area of province produces about 223,034 m.t of fish and other marine species. Beside domestic consumption fish products are being exported to countries such as Middle East and Far East etc.

Government of Sindh is paying attention to develop the Marine culture in the coastal areas to increase the fish/shrimp production and has earmarked 20,000 acres of land in coastal areas of District Thatta and Badin. The available natural resources can be utilized by establishing fish/shrimp ponds/ Pen/Cages/rafs to develop Mariculture in the province on scientific lines to increase production including high value fish/shrimp for export to earn foreign exchange and generate employment.

2. Site Location and Condition

Conditions at site are suitable for shrimp culture as below:

- Air temperature range: 5-41 Celsius
- Water temperature range: 8-34 Celsius
- Salinity range: 0-47 ppt
- Highest Tide: 3.83 meters
- Mean High Tide: 3.20 meters
- Mean sea level: 2.06 meters
- Accessibility: Good

3. Suitable Species for culture

There are 15 species of marine shrimps found in territorial waters. However, following shrimp species are commercially important and suitable for culture

- Penaeus merguinsis (banana shrimp)
- Penaeus monodon  (Tiger shrimp)
- Penaeus semisulcatus (Jaira shrimp)
- Penaeus indicus (White shrimp)

4. Location

Government has earmarked 20,000 acres of land, where 11,473 acres of land in District Thatta and District Badin. 4500 acres of land along with coastal belt of Thatta is marked for Phase-1 model farm extendable up to 11,473 acres.

5. Marketing

Linkages with buyers/processors in order to sale the product and establishment of shrimp/fish market preferably at Thatta district. Processing facilities for freezers/packaging as per international certified Standards / Certification

6. Financials

Cost of 10 Acres Shrimp Farm = Approx 5 million (USD $ 54,945

<table>
<thead>
<tr>
<th>No. of Units</th>
<th>One Unit Cost (PRK)</th>
<th>Total Area (PRK)</th>
<th>Total Cost in USD $</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>5 Million</td>
<td>2500 Million</td>
<td>27.47 Million</td>
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Total Infrastructure Development Cost = Approx. USD $ 3.0 Million

Internal Rate of Return= 22-25%

Project

Government of Sindh is seeking investment for establishment of farms on ‘1000 acres’ packages by involving local population for Shrimp development & exports.
INTRODUCTION:

Dairyland (Pvt) Limited is a part of Pakistan's largest business group established in 1968. Today this group is recognized as Akhtar Group of Companies. Enjoying a high reputation in home and overseas markets due to their special managing pattern that includes excellent quality, sincerity, pragmatic character and innovation.

The Group and its enterprises have been steadfast and distinctive in their adherence to business ethics and their commitment to corporate social responsibility.

Dairyland (Pvt) Limited has its own farm spread over 30 acres with over 1200 cows from Friesian and Jersey breed. The farm is located 60 miles north of Karachi, the biggest metropolitan city of country.

The vision of Dairyland (Pvt) Limited is to play a vital role in the development of a thriving dairy sector across Pakistan. We recognize that there is a vital need for quality sources of nourishment and the need is even more critical because of the prevailing conditions of dairy sector.

We believe in adding value to the lives of our consumers and to hire, train and motivate the best human resources. Quality is the hallmark of Dairyland (Pvt) Limited, and ethical business values are key motivating factors to govern the organization.

PROJECT HIGHLIGHTS:

- The company owns a state-of-art farm where the Australian cows are fed on international standards to produce quality milk through automatic milking parlor.
- The cows are kept under purpose built sheds where fresh food and water is provided.
- Well-trained staff under a foreign consultant and veterans supervises Dairyland Farm.
- Dairyland Farm has strict hygiene control throughout the process that ensures, products remain fresh and wholesome from the farm to the table.
- Dairyland farm is equipped with flushing systems, (first of its kind in Pakistan) manure separators and feeding wagons to create healthy and hygienic conditions at the farm.
- Dairyland (Pvt) Limited is self sufficient to produce electricity 24/7 and fresh water supply for our animals and processing plant.
- Dairyland (Pvt) Limited produce pasteurized and homogenized milk from our own cows at an ISO 22000 certified processing plant. The product is available in food grade HDPE bottles.
- The current capacity of our processing plant is over 5,000 liters of milk per hour.

FARM STATISTICS:

- The farm has over 1200 cows with a capacity to expand upto 3500 cows.
- Total of 350 calves are being raised at the farm.
- Average yield of a cow is 20 liters per day at Dairyland farm.
- The farm has 6 silage bunkers to ensure continuous fodder supply.

FUTURE PLANS:

In line with our vision we are looking for a greater expansion. The company is interested in a joint venture with UAE based existing dairy companies to develop value added products and expand in terms of current milk capacity as well as new products.

The company also wish to expand into international markets through contract manufacturing and export of dairy products.
Metro Dairy Farm

Location
The Metro Dairy Farm is located in Nooriabad (approx. 55 acres) which is an industrial town in Jamshoro District of Sindh, Pakistan. It is located 94 kilo meters from Karachi on the N-5 National Highway and our head office is located in Karachi.

Mission & Vision
To provide consumer goods of a high standard using trained and experienced staff along with the modern and advance state of art equipments including Imported Milk Parlour, Silage Bunkers and Corn Silos.

Project Information
The project is built on Lait which is located in (Gharo-Mirpur Sakro Road) with the following facilities
- Ample supply of water with proper drainage system
- Connected with the main national highways & fertile land
- Self-Sustaining facility in respect of Energy & Wind
- Well planned & build infrastructure for the speedy & timely delivery for supplies
- Processing & storage unit

Fodder Supply
Land of approximately 175 acres area have been leased in Lait (Gharo-Sindh) in which seasonal green fodder including sprouted grains, chaff, straw & alfalfa are grown.

Future Plans
- We are looking for a strategic alliance with a foreign partner to incorporate value addition to the chain of milk production
- Project is now aligned for mechanization along-with expansion with capacity to increase number of animals upto 2000 with land holding to fulfill the fodder requirements.

Cattle Data
- 550 Australian Cows & Eyeing to increase no. of cows to 2500

Project Cost
- Estimated cost of the project is approx. US$ 5.5M

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Let’s Nurture the Nature

SALIENT FEATURES

- Genetic research on beef cattle already done
- Available land - 500 acres at different locations
- Sweet water available - Canal irrigation, underground
- Distance from Karachi Airport - 42 – 50 KM
- Distance from Karachi Seaport - 32 – 40 KM
- Electricity - Available
- Climate - Moderate
- Agriculture land is available for further expansion and cultivation

Contact Person
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Mahi Seafood has been operating within the Pakistani market for the past 4 years, it is a sister concern of Kanpa International Sales which has been one of the largest fish exporters since 1974. Mahi Seafood has 3 product lines, each having different variants, i.e

1. Frozen
2. and
3. Breaded

Brand Story

Ever since our journey started in 2007, we have been committed to provide the healthiest, most affordable and delicious frozen seafood to the Pakistani consumers. From frozen raw to breaded products, we have the largest assortment of seafood products to offer to the Pakistani market.

It is our commitment to our community and our innate desire to be continuously innovative and provide the best customer service across the board that binds us in the vision that we have for our brand – To be the most loved and adored seafood brand.

Certifications:

- HACCP Certified
- Marine Fisheries Department Certified
- EU Export Commission Approved

To gear up Mahi Seafood Internationally, Kanpa International is looking forward to have investors for distribution in Dubai.