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The Financial and Economic feasibility of establishing a new schooling system in Balochistan “Container school system”



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The capacity and performance of the Education System in Pakistan is very inadequate. The purpose of this report is to conduct the financial and economic feasibility of establishing a new Education Supply system in Balochistan, Pakistan. The study indicates the results of the assessment and proposed recommendations.

Executive Summary

The education system of Pakistan has many difficulties in its improvement. like poverty, culture, weather, child labor, distance from school, low quality construction of schools, unskilled and unqualified staff by political employment, corruption, high cost of barring by parents, security threats etc.

This paper discussed some problem-solving methods by one formula, which is the container school system. This system solved some of the difficulties in education by the construction of container schools at the entry level. People in Pakistan, particularly children, face changing weather patterns, which means parents bear a high cost for their children's health care. expenditure at primary level is in the district of Quetta at Rs. 17,991 and the lowest is in Chagai at Rs. 3,121 (Balochistan sector plan).

By providing this facility at the door, we could control these problems because the CS has all the facilities like AC rooms and hot water in different seasons. There are 1.31% all over Pakistan not going to school and 0.44% in Balochistan not going to school due to illness problems. Due to weather conditions, 16.07% of students in Pakistan and 18.4% in Balochistan are not permitted to attend school. (PSLM 2014-15).

The average distance from school is very high on average in Pakistan, which creates many problems like the cost of transportation and culture. In Pakistan, especially in rural areas, women's outings are possible with male elders or children. If this facility is not found in a home, then in those homes, females are illiterate in most cases. There are many problems with teachers, especially females, attending school because of distance and cultural issues, but if this facility of education is provided in their communities, then without any other guidance they could go to school. Females face the brunt of social barriers to education, especially as they move beyond the primary age. While large parts of society all over Balochistan support female education, the barriers in certain areas and societies have impeded the progress of the girl child. The Sector Plan recommends a study on these attitudes and the preparation of an awareness programme for change in attitudes. All children outside the domain of mainstream education need to be included in the education process. Most of the interventions above can be part of an inclusive education approach. For reasons of convenience and special focus, the current section of the Sector Plan focuses on the marginalised groups in two categories: the disabled and the Afghan refugees in the province.

School traffic is very high in cities due to school traffic. At school opening and closing times, providing the facility of a school at the door could ease the congestion. There is a lot of corruption in the construction of a school in Pakistan. Many schools are allocated unnecessarily to the wrong place because of political issues, but the cost of CS is fixed and known by completing some schools efficiently. We could complete a school cleanly and greenly. Also, if there is a possibility of roughness in the school, we could take it out and shift it to a better and more feasible place. Private schools are

very high in Pakistan, and everyone sent their children to PS's because of the good and better construction and facilities. In CS, we provided all the facilities that they wanted and decreased their real consumption. If we construct container schools in big cities, the high-level employed people of PS may be shifted to government schools and could control the unemployment in the education system.

Disaster Risk Reduction issues were first identified in the National Education Policy 2009 in the aftermath of the massive earthquake of 2005 in AJK, KP, and parts of Punjab. It has since been an issue in different education forums and, despite many other disasters (and conflict situations), no province has streamlined and institutionalised policy on the DRR. Current efforts are mostly reactive and undertaken with the support of external partners. Based on the history of the province, Balochistan faces three high-risk disaster situations: earthquakes, water-related disasters, and conflict (resulting in law and order breakdown) in some parts of the world.

Some of the major issues of the primary school system of Baluchistan are:

- Many schools in rural areas are closed mainly because of teacher absenteeism, which results in low enrolment and a high dropout rate. The Education Department finds it difficult to enforce discipline because of external influences.
- In some instances, recruitment policies and procedures have not been fully followed, resulting in the hiring of teachers who are neither motivated nor capable enough to do their job.
- Schools have a non-friendly environment due to a lack of basic facilities.
- The teaching methodologies are teacher-centered rather than student-centered, resulting mostly in rote-learning and hence disinterest in children.
- There is no system of regular assessment of students. Therefore, the students do not have any learning but are promoted every year, which creates a peculiar mindset that only the degrees are important, with or without any real learning and knowledge.
- More than half of school-age children are absent, with 74% of enrolled children never completing primary school.
- There is a huge gender disparity with the ratio of girls versus boys of 1:1.6.
- Over 50% of existing schools are single-teacher schools.

Objectives

The major objectives are:

- Increase access to primary education
- Improved retention in primary schools
- Improved Primary Completion
- Raising the quality of education in primary schools
- minimize gender gaps in the primary education sector.



1.0 Background

The project of container schooling system will be a dedicated education facility that will provide education services to children that are residing in the areas of Pakistan and especially in Baluchistan. The institution aims to support the government's intention to conduct high quality education for developing areas. A CS in the region has been necessitated in view of the increasing number of illiterates in different areas of Pakistan. The CS was conceived a year ago, after which different approvals were obtained from relevant government agencies.

The project has been included in the current annual plan 2015-16 under the ambit of the Chief Minister's education Program in KPK. The programme is in line with the present government's focus on education problems.

The location of CS is anywhere in Baluchistan.

The project will be sponsored by the Baluchistan Education Support Program, whereas the responsibilities of execution and operation and maintenance will be undertaken by the governing body. The Ministry of Education, Regulations, and Coordination will be the concerned federal ministry for this project.

The project is to be accommodated under the PSDP allocation in view of the importance of HRD and institutional strengthening in the overall policy framework of the Government of Pakistan.

Project Objectives 2.0

The objectives of this project are twofold:

- To provide comprehensive education services to meet the educational needs of students primarily from villages, towns, and underdeveloped areas with a low income profile.
- To conduct high quality children's education and take necessary measures to promote awareness regarding education.

3.0 Methodology

The systematic methodology adopted for developing the feasibility of this project comprises of the following broad steps:

- Description and Justification of the Project
- Review of Education Epidemiological Data
- Estimation of Capital, Operating and Maintenance (O & M), and Replacement Costs for the Project's Entire Life
- Cash Flow Financial and Economic Analysis Quantitative Risk Analysis

4.0 Description and Justification of the Project

- Provision and up-gradation of the schooling system at the doorstep of every child and reducing the number of those out of school who are away from school.
- teacher attendance system provision and improvement
- The container school will have an LED screen system. How do we improve our skills?
- All containers have good or better air conditioning and a full electricity system of solar energy.
- At these schools, there is a good system of washrooms with hot water, which is not in other schools.
- The work of construction is clean and clear of corruption.

The KPK government has launched this good school system at the district, tehsil and village level. The reconstruction process aims to utilise a bottom-up methodology, to be people-centered, rights- and responsibility-based, and customer service-oriented.

Description

The project consists of

- Container
- Insulation, walls, ceilings and floors
- The solar power system is complete in all respects.
- electric appliances (AC inverter, bracket, ceiling and exhaust fans, submersible water pumps, generator, lights, led lights, surface-mounted device)
- Fire extinguishers, burglar alarm system)
- Biometric system (printer multimedia laptop)
- Civil/construction works: foundation, water tank, washrooms, drainage, tiling, flooring, painting, fencing.
- Furniture and fixers
- Transportation, installation, fabrication (complete in all respects)

- Plantation
- playing area

Social Benefits with Indicators

The greatest social benefit of the container school is reducing the travel costs and time of the students.

The average cost of travelling to school in Baluchistan is about 40 rupees per day.

The weather effects also have a big impact on student health, which they have in the way and also in the school.

By getting kids to school at the door, the problem of traffic congestion is also reduced.

Additional Projects/Decisions Required Maximizing Socio-Economic Benefits from the Proposed Project:

1. The school quickly realised that using shipping containers would offer many advantages compared to other building methods.
2. By using containers, the cost was significantly less than alternative options, but there were other added benefits that swayed their decision.
3. The flexibility of modular building was very appealing because it meant the installation could be disassembled and re-installed at another location in the future if needed. Plus, by recycling ex-shipping containers, they would help the environment versus sourcing new materials used in traditional construction.
4. The converted shipping container option offered budget savings.
5. environmentally friendly building materials.
6. The building would be mobile so it could be relocated.
7. With all the advantages of varicose building options weighed up by the school, the go-ahead was given for us to start the project right away.
8. We got to work first by selecting 5*40ft used shipping containers that would be suitable for their conversion project.
9. Space would be created within the building by removing original container side walls and then reinforcing the containers where sections had been cut out.
10. The school wanted the building to be energy efficient but was limited by budget.
11. To keep costs down, insulated thermal blankets were placed beneath the plywood boarding.
12. Next was the fitting of double glazed windows and bi-folding patio doors, which enhanced the building's green credentials further.

6.0 Estimation of Costs and Benefits
Silent features

6.1 Capital Cost Estimates

a. Capital Cost of Project	Rs. 12 .5 Million
b. Beneficiaries	178 persons
I. Direct beneficiaries	178 persons
II. indirect beneficiaries	150 HH

CAPITAL COST DETAIL

S.no	Item	Stefisication	quantity	cost
1	Container	(i) 40*8*9.5 ft	6	1580000
		(ii) 20*8*9.5	2	
2	Installation	wall cielling and floor		1900000
3	solar system and electric system	(i)solar panals	88	3000000
		(ii) battery	24	
		(iii) insulators	5	
		(iv)pritaction system	1	
		(v) AC one ton	7	
		(vi) braket fan 18 inch	19	
		(vii)selling fan 48inch	1	
		(viii)exhuast 10 inch	2	
		(ix) mersible 2hp oneinch	1	
		(x) genrator 25kw	1	
		(xi)wall lights water proof	10	
		(xii) other lights	38	
4	security system	(i)cctv camras	9	960000
		(ii)driver	1	
		(iii)sos police alarm	1	
		(iv)fire extinguisher	7	
		(v)biometric system	1	

		(vi)printer	6	
		(vii)multimedia	6	
5	other construction	water tank washrooms drainage		2900000
		silling flooring and tant fitting		
6	tranceportation and fibrigation			1200000
7	Furniture	(i)KG class tables	15	650000
		(ii) KG class chairs	30	
		(iii) tables for other classes	140	
		(iv)chairs for other classes	140	
		(v) teacher table 4.3.3) and chairs	6	
		(vi) staff room table	1	
		(vii)chairs6	6	
		(viii)sofas	1	
		(ix) shelf	1	
8	equiptments	laptops core i3	6	260000
		playing and sports		50000
	total			12500000

PC-I PROFRMA

1	Name of the project	Container school system
2	Location	Union council and Village appozai district zhob Balochistan
3	Authorities responsible for I. Sponsoring II. Implementing agency III. Execution IV. Operating and maintenance	World bank(multi donor trust fund) Balochistan -SADP Community organization with the technical assistance by the SADP and education department Community based organization & education department

4	<p>Plan provision</p> <p>I. If the project is included in the medium term/five year plan, specify actual allocation</p> <p>II. If not included in the current plan what warrants its inclusion to be accommodated</p> <p>III. If the project is proposed to be financed out of block provision, indicate</p>	<p>NA</p> <p>The scheme will be sponsored by a special sub-project.</p> <p>NA</p>
5	<p>Provision in the work plan</p> <p>I. Total block provision</p> <p>II. Amount proposed for this sub-project</p>	<p>Balochistan rural areas</p> <p>Rs.12,500,000/- (Rs.12.5 million)</p>
6	<p>Project objectives</p> <p>I. Objective of the project is</p> <p>II. In case of revised projects indicate objectives of the project if different from original PC-1</p>	<p>i. Interactive learning</p> <p>ii. Equipped with the latest technology</p> <p>iii. Provide a range of education software for teacher and students</p> <p>iv. Various methods of teaching and learning</p> <p>v. Promote self learning to creativity and independence.</p> <p>vi. Good environment for student health.</p> <p>vii. Better security to students and staff.</p> <p>As above</p>
7	<p>Background</p>	<p>Problem faced by our public education system in remote areas;</p> <ul style="list-style-type: none"> ● Ghost school and teachers ● Lack of sufficient resources –proper sanitation, comfortable environment, latest syllabus ● Compromise on quality of education imparted to the students

		<ul style="list-style-type: none"> • Progress not monitored • Conventional construction methods are expensive and time consuming
8	<p>Description and justification of project</p> <p>I. Whether community action plan (CAP) prepared</p> <p>II. Provide details of civil works equipment machinery and other physical facilities required for the project</p>	<p>As mentioned above</p> <p>Yes</p> <p>The proposed activity was prioritized by the CBO through conducting comprehensive CAP and is a priority which was followed by social and technical feasibility, where in the said protection was found feasible and suitable for execution.</p>

9	<p>Capital cost estimates</p> <p>a. Indicate date of estimating cost</p> <p>b. Basis of determining the capital cost be provided ,</p> <p>i.e. market survey, schedule rates, estimation on bases of previous work done etc</p> <ul style="list-style-type: none"> • Quantities • Rates 	<p>March 2017</p> <p>Following are on the market rate</p> <p>The quantities are listed in detail cost estimates.</p> <p>The rates are based on current market rates.</p>
10	Duration of project	Two weeks
11	Annual operating cost	The annual recurring expenditures will be borne by the community organization/education department.
12	Financial / economic analysis (with assumption)	Rs. 12.5million

	<p>I. Financial analysis</p> <p>II. Economic analysis</p> <p>III. employment</p>	<p>Npv is higher than other schools Unit cost ratio is low from other schooling system</p> <p>Approximately 175 students benefited.</p> <p>Local employment will be generated in terms of skilled and unskilled labor and they will get job opportunities during execution of the scheme.</p>
1 3	<p>I. sensitivity analysis</p> <p>II. environmental</p>	<p>No social and departmental dispute over the construction of the said project. The concerned CBOs have submitted resolutions through mutual consultation and consensus as well as during the conduction of CAP and prioritized the subject project.</p> <p>No negative impact on the environment.</p>
1 4	<p>implementation schedule</p> <ul style="list-style-type: none"> ● indicate starting and completion date of the project 	<p>When implemented</p>
1 5	<p>Management structure and manpower requirement</p> <ul style="list-style-type: none"> ● administrative arrangements for implementation of project ● manpower requirement by skill during execution and operation of the project be provided. 	<p>Arrangement is available at DIU level.this will be the supervision of field Engineer of DIU,SADP zhob.</p> <p>Skilled manpower will be the responsibility of the benefitting community organization.</p>

THE CONTAINER SCHOOL FEASIBILITY REPORT

Years	Local	FEC	Total	Debt	Equity
1 st	12.5	0	12.5	0	12.5
Total	12.5	0	12.5	0	12.5

Interest Rate on Loan 12.00%

Return on Equity 16.00%

O&M Cost 4.32 Rs. Million

Life of the project 10 Years

Capacity 178 students/year

Capacity Utilization 100% From 1st year

Working days 240 days

Revenue 200 Rs./student

Salvage Value (10%) 1.25 Rs. Million

Weighted Discount Rate

Loan	0	0	12.00%	0
Equity	12.5	1	16.00%	0.16
Total	12.5	1		16.00%

Financial Analysis

(Rs. Million)

Years	Capital Cost	O&M Cost	Total Cost	Revenue	Net Flow	Students (Million students)
1	12.5	4.32	16.82	0.034	-16.786	0.034
2	0	4.32	4.32	0.034	-4.286	0.034
3	0	4.32	4.32	0.0356	-4.2844	0.0356
4	0	4.32	4.32	0.0356	-4.2844	0.0356
5	0	4.32	4.32	0.0356	-4.2844	0.0356
6	0	4.32	4.32	0.0356	-4.2844	0.0356
7	0	4.32	4.32	0.0356	-4.2844	0.0356
8	0	4.32	4.32	0.0356	-4.2844	0.0356
9	0	4.32	4.32	0.0356	-4.2844	0.0356
10	0	4.32	4.32	0.0356	-4.2844	0.0356
11	0	4.32	4.32	0.0356	-4.2844	0.0356
12	0	4.32	4.32	0.0356	-4.2844	0.0356
13	-1.25	0	-1.25	0	1.25	0
Total	11.25	51.84	63.09	0.424	-62.666	0.424

Results

P.W of Capital Cost	12.29	Rs. Million
P.W of O&M Cost	21.72	Rs. Million
P.W of Total Cost	38.33	Rs. Million
P.W of Revenue	0.21	Rs. Million
NPV	-38.12	Rs. Million
Benefit Cost Ratio	0.01	: 1
IFRR		
Cost Per student	210.10	Rupees
Income Per student	1.16	Rupees

Economic Analysis

(Rs. Million)

Years	Capital Cost	O&M Cost	Total Cost	Revenue	Net Flow	Students (Million students)
1	11.25	0.324	11.574	0	-11.574	0.034
2	0	0.324	0.324	0	-0.324	0.034
3	0	3.888	3.888	0	-3.888	0.0356
4	0	3.888	3.888	0	-3.888	0.0356
5	0	3.888	3.888	0	-3.888	0.0356
6	0	3.888	3.888	0	-3.888	0.0356

7	0	3.888	3.888	0	-3.888	0.0356
8	0	3.888	3.888	0	-3.888	0.0356
9	0	3.888	3.888	0	-3.888	0.0356
10	0	3.888	3.888	0	-3.888	0.0356
11	0	3.888	3.888	0	-3.888	0.0356
12	0	3.888	3.888	0	-3.888	0.0356
13	-1.125	0	-1.125	0	1.125	0
Total	11.25	39.528	49.653	0	-49.653	0.424

Results

P.W of Capital Cost	9.79	Rs. Million
P.W of O&M Cost	18.06	Rs. Million
P.W of Total Cost	27.85	Rs. Million
P.W of Revenue	0.00	Rs. Million
NPV	-27.85	Rs. Million
Benefit Cost Ratio	0.00	: 1
IERR		
Cost Per student	127.85	Rupees
Income Per student	0.00	Rupees

Sensitivity Analysis for NPV

(Rs. Million)

-27.85	24	26	28	30	32
20000	184.73	242.39	300.04	357.70	415.35
18000	115.54	167.43	219.32	271.21	323.10
16000	46.36	92.48	138.61	184.73	230.86

14000	-22.83	17.53	57.89	98.25	138.61
12000	-92.01	-57.42	-22.83	11.76	46.36

Sensitivity Analysis for IERR

#DIV/0!	24	26	28	30	32
20000	30%	35%	40%	44%	49%
18000	24%	29%	33%	37%	42%
16000	17%	22%	26%	30%	34%
14000	9%	14%	18%	22%	26%
12000	0%	5%	9%	13%	17%

THE COST AND FEASIBILITY REPORT OF NON CONTAINER SCHOOL

Financial

Capital Cost (Rs. Million)

Years	Local	FEC	Total	Debt	Equity
1st	17.5	0	17.5	0	17.5
Total	17.5	0	17.5	0	17.5

Interest Rate on Loan **12.00%**

Return on Equity **16.00%**

O&M Cost 4.32 **Rs. Million**

Life of the project **10** **Years**

Capacity **178** **students/year**

Capacity Utilization **100%** **From 1st year**

Working days **240** **Days**

revenue **200** **Rs./student**

Salvage Value (10%) **1.75** **Rs. Million**

Weighted Discount Rate

Loan **0** **0** **12.00%** **0**

Equity **17.5** **1** **16.00%** **0.16**

Total **17.5** **1** **16.00%**

Financial Analysis

(Rs. Million)

Years	Capital Cost	O&M Cost	Total Cost	Revenue	Net Flow	students (Million students)
1	17.5	4.32	21.82	0.034	-21.786	0.034
2	0	4.32	4.32	0.034	-4.286	0.034
3	0	4.32	4.32	0.0356	-4.2844	0.0356
4	0	4.32	4.32	0.0356	-4.2844	0.0356
5	0	4.32	4.32	0.0356	-4.2844	0.0356
6	0	4.32	4.32	0.0356	-4.2844	0.0356
7	0	4.32	4.32	0.0356	-4.2844	0.0356
8	0	4.32	4.32	0.0356	-4.2844	0.0356
9	0	4.32	4.32	0.0356	-4.2844	0.0356
10	0	4.32	4.32	0.0356	-4.2844	0.0356
11	0	4.32	4.32	0.0356	-4.2844	0.0356
12	0	4.32	4.32	0.0356	-4.2844	0.0356
13	-1.75	0	-1.75	0	1.75	0
Total	15.75	51.84	67.59	0.424	-67.166	0.424

Results

P.W of Capital Cost	17.21	Rs. Million
P.W of O&M Cost	21.72	Rs. Million
P.W of Total Cost	43.25	Rs. Million
P.W of Revenue	0.21	Rs. Million
NPV	-43.04	Rs. Million
Benefit Cost Ratio	0.00	: 1

IFRR		
Cost Per student	237.05	Rupees
Income Per student	1.16	Rupees

Economic Analysis

(Rs. Million)

Years	Capital Cost	O&M Cost	Total Cost	Revenue	Net Flow	students (Million students)
1	15.75	0.324	16.074	0	-16.074	0.034
2	0	0.324	0.324	0	-0.324	0.034
3	0	3.888	3.888	0	-3.888	0.0356
4	0	3.888	3.888	0	-3.888	0.0356
5	0	3.888	3.888	0	-3.888	0.0356
6	0	3.888	3.888	0	-3.888	0.0356
7	0	3.888	3.888	0	-3.888	0.0356
8	0	3.888	3.888	0	-3.888	0.0356
9	0	3.888	3.888	0	-3.888	0.0356
10	0	3.888	3.888	0	-3.888	0.0356
11	0	3.888	3.888	0	-3.888	0.0356
12	0	3.888	3.888	0	-3.888	0.0356
13	-1.575	0	-1.575	0	1.575	0
Total	15.75	39.528	53.703	0	-53.703	0.424

Results

P.W of Capital Cost	13.70	Rs. Million
P.W of O&M Cost	18.06	Rs. Million
P.W of Total Cost	31.76	Rs. Million
P.W of Revenue	0.00	Rs. Million
NPV	-31.76	Rs. Million
Benefit Cost Ratio	0.00	: 1

IERR		
Cost Per student	145.82	Rupees
Income Per student	0.00	Rupees

Sensitivity Analysis for NPV

(Rs. Million)

	-31.76	24	26	28	30	32
20000		184.73	242.39	300.04	357.70	415.35
18000		115.54	167.43	219.32	271.21	323.10
16000		46.36	92.48	138.61	184.73	230.86
14000		-22.83	17.53	57.89	98.25	138.61
12000		-92.01	-57.42	-22.83	11.76	46.36

Sensitivity Analysis for IERR

#DIV/0!	24	26	28	30	32
20000	30%	35%	40%	44%	49%
18000	24%	29%	33%	37%	42%
16000	17%	22%	26%	30%	34%
14000	9%	14%	18%	22%	26%
12000	0%	5%	9%	13%	17%