

PIDE

SLUDGE AUDIT

VOL - 1



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PIDE SLUDGE AUDIT

VOLUME 1

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SECTION 3: SLUDGE FROM OTHER SECTORS

ACRONYMS & ABBREVIATIONS

BCS	Building Control Section, CDA
CAA	Civil Aviation Authority
CDA	Capital Development Authority
CLB	Central Licensing Board
DHA	Defence Housing Authority
DHO	District Health Office
DRAP	Drug Regulatory Authority of Pakistan
DVC	Design Vetting Committee, CDA
EIA	Environmental Impact Analysis, EPA
EM1DTE	Estate Management Directorate -I, CDA
EPA	Environment Protection Agency
FAR	Floor Area Ratio
FESCO	Faisalabad Electric Supply Company
FPSC	Federal Public Service Commission
HCE	Healthcare Equipment
IBCC	Inter Board Chairman Committee
IESCO	Islamabad Electric Supply Company
IHRA	Islamabad Healthcare Regulatory Authority
NDC	No Demand Certificate
NOC	No Objection Certificate
NTN	National Tax Number
OMC	Oil Marketing Company
PBS	Pakistan Bureau of Statistics
PCDA	Pakistan Chemists' and Druggists' Association
PIR	Property Information Report
PMC	Pakistan Medical Council
PNC	Pakistan Nursing Council
PTCL	Pakistan Telecommunication Company Ltd.
SNGPL	Sui Northern Gas Pipeline Limited

WHAT IS SLUDGE IN THE ECONOMY?

Social scientists use the term sludge for excessive or unjustified frictions that make it difficult for people to achieve what they want to or to do as they wish (Sunstein, 2021). These frictions make processes difficult to navigate and entail burdens.

Examples of the sludge include:

- Complicated application forms.
- Duplicative paperwork.
- Waiting in queues to get a task done.
- Time consumed in seeking registrations, licenses, certificates, and other permits (RLCOs).
- Securing attestations/verifications.

All interactions between individuals seeking a service from institutions, both public and private, involve sludge. In an interaction between a citizen and a public institution, sludge is simply the administrative burden borne by a citizen.

Herd and Moynihan (2018) elaborate that these administrative burdens occur in the form of learning cost (the cost that people encounter when they search for information about a service), compliance cost (related to compliance with rules and requirements), and psychological cost (related to the experience of stress, loss of autonomy, or stigma).

WHY DOES SLUDGE MATTER?

Studies from behavioral economics show that individuals prefer to avoid such administrative burdens in the present, even if it means forgoing long-term benefits.

This implies that the presence of sludge in the form of administrative burdens reduces the frequency of transactions. Since GDP is the sum of transactions in the economy, **sludge is consequential** and constrains GDP growth.

Sludge also costs the economy in terms of waste of resources and incidence of higher opportunity costs. For example, a document that can be delivered online, requiring it to be delivered personally imposes several cost like travel expenditure, cost of time spent, and even pollution caused due to travel. Such costs discourage investment and lower the overall productivity in the economy, which ultimately constrain GDP growth.

Besides, resources are required to overcome sludge, and resource-constrained individuals face more difficulty to tackle sludge. Therefore, **sludge is distributive** and reinforces inequality. It also imposes psychological costs in the form of frustration, humiliation, and stigma. Finally, it can be used to seek rents, which again constrains economic activity.

OBJECTIVES OF THE PIDE SLUDGE AUDIT REPORTS

The identification of sludge involved in different interactions between citizens and public institutions is essential to reduce the magnitude of the burdens imposed by these frictions.

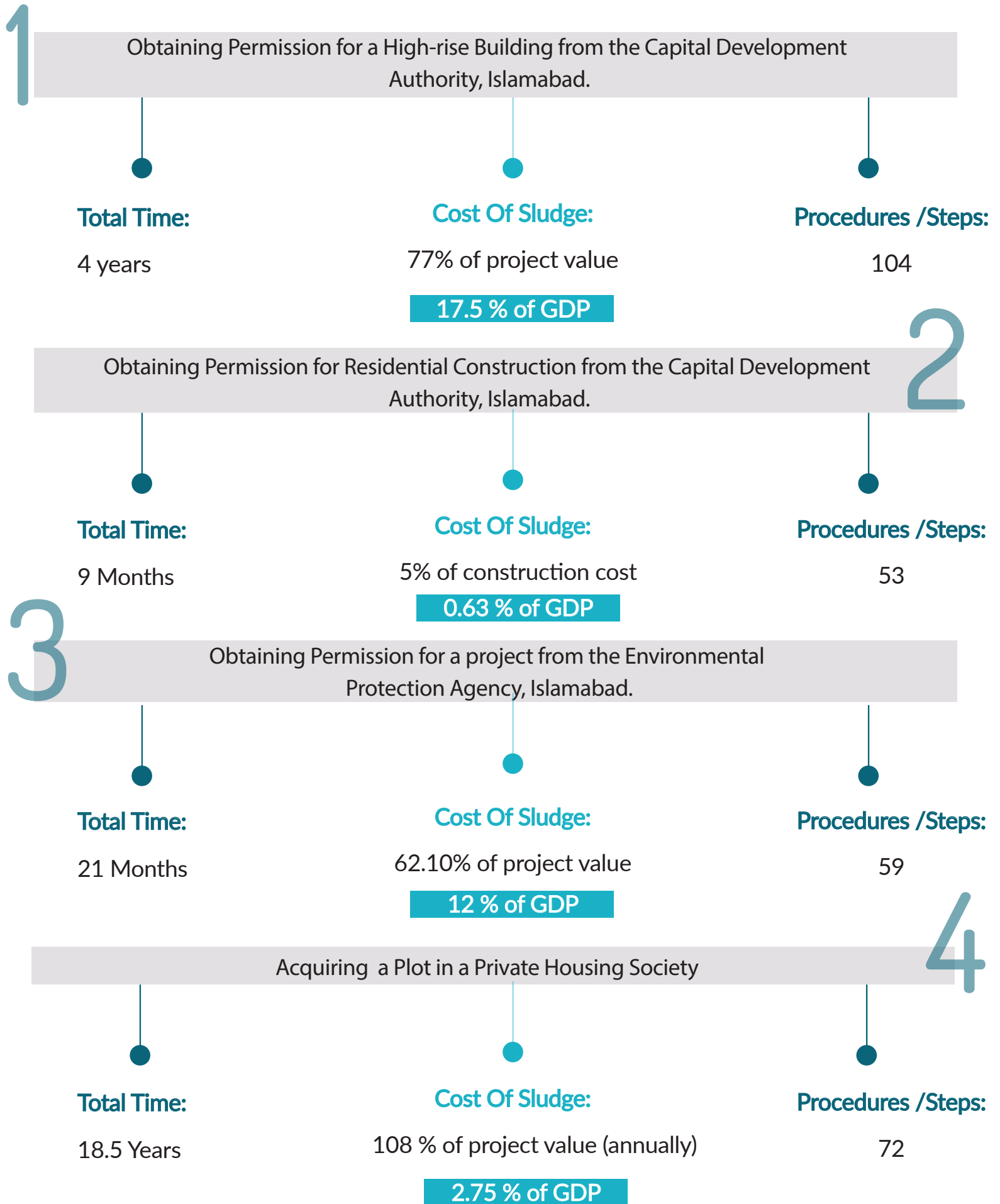
PIDE sludge audit reports aim to serve this goal. The objectives of the reports are:

- To highlight the sludge involved in different activities.
- Induce the concerned agencies to work for reducing the sludge.
- To pin down areas where the sludge can be reduced either by shortening the procedure or through digitization.

To compute the sludge involved in an activity, we have estimated the time consumed in the execution of the activity and the cost involved in executing it. The cost includes processing cost as well as opportunity cost. Expenditures incurred for the execution of an activity such as fees, taxes, travel expenditures, etc., fall in the category of processing expenditures. Opportunity costs include the revenue foregone due to delayed execution of the activity – for example, rental income that a building may earn if allowed to be constructed earlier than is the case. The time-cost of the person(s) facing the administrative burdens. Trips to a government office and waiting for a public official to get a task done have been captured by assuming the wage-income lost due to the visit. The profile of the person undertaking the visits has been accounted for while assuming the wage-income lost. Typically to launch a certain business venture an office must be established during the pre-implementation phase. This office runs at a sub-optimal level, till the operations start, which means more overheads. Such overheads, due to a delayed start, have also been estimated and accounted for in the opportunity cost incurred due to sludge.

EXECUTIVE SUMMARY

THE COST OF REGULATION ↪ 39 % OF GDP



5

Setting-Up a Pharmaceutical Unit

Total Time:

2 Years

Cost Of Sludge:

10.3 % of project value

2.34 % of GDP

Procedures /Steps:

114

6

Setting-Up a Private Hospital

Total Time:

8 Months

Cost Of Sludge:

49.15 % of project value

0.1 % of GDP

Procedures /Steps:

96

7

Setting-Up a Diagnostic Center

Total Time:

6.14 Months

Cost Of Sludge:

36.6 % of project value

0.03 % of GDP

Procedures /Steps:

87

8

Setting-Up a Pharmacy

Total Time:

7.2 Months

Cost Of Sludge:

46.5 % of project value

3.75 % of GDP

Procedures /Steps:

84

9

Recruitment through Federal Public Service Commission (FPSC)

Total Time:
2.17 Years

Cost of Sludge
Rs. 15,678

Procedures /Steps:
29

10

Pension: Kick-Off Process

Total Time:
6 Months

Cost Of Sludge:
94 % of graduity
0.06 % of GDP

Procedures /Steps:
30

11

Setting-Up a Petrol Pump

Total Time:
13.71 Months

Cost Of Sludge:
8.2 % of investment
0.07 % of GDP

Procedures /Steps:
58

12

Trade License

Total Time:
5.3 Months

Cost of Sludge
Rs. 80,185

Procedures /Steps:
46

THE REAL ESTATE SECTOR



To highlight the sludge in the real estate sector, we focused on the following activities:

- Obtaining Permission for a High-rise Building from the Capital Development Authority, Islamabad.
- Obtaining Permission for Residential Construction from the Capital Development Authority, Islamabad.
- Obtaining Permission for a Project from the Environment Protection Agency, Islamabad.
- Buying and Selling a Plot in a Private Housing Society.



1.1

OBTAINING PERMISSION FOR A HIGH-RISE BUILDING FROM THE CAPITAL DEVELOPMENT AUTHORITY, ISLAMABAD

As per the Islamabad Capital Territory Building Control Regulations (2020), a building or a structure cannot be constructed without prior permission from the Capital Development Authority (CDA).

THE PROCESS OF OBTAINING CONSTRUCTION PERMISSION



⬡ The CDA by-laws do not provide any clear definition of a high-rise building. Based on zoning laws the maximum number of storeys allowed are subject to,

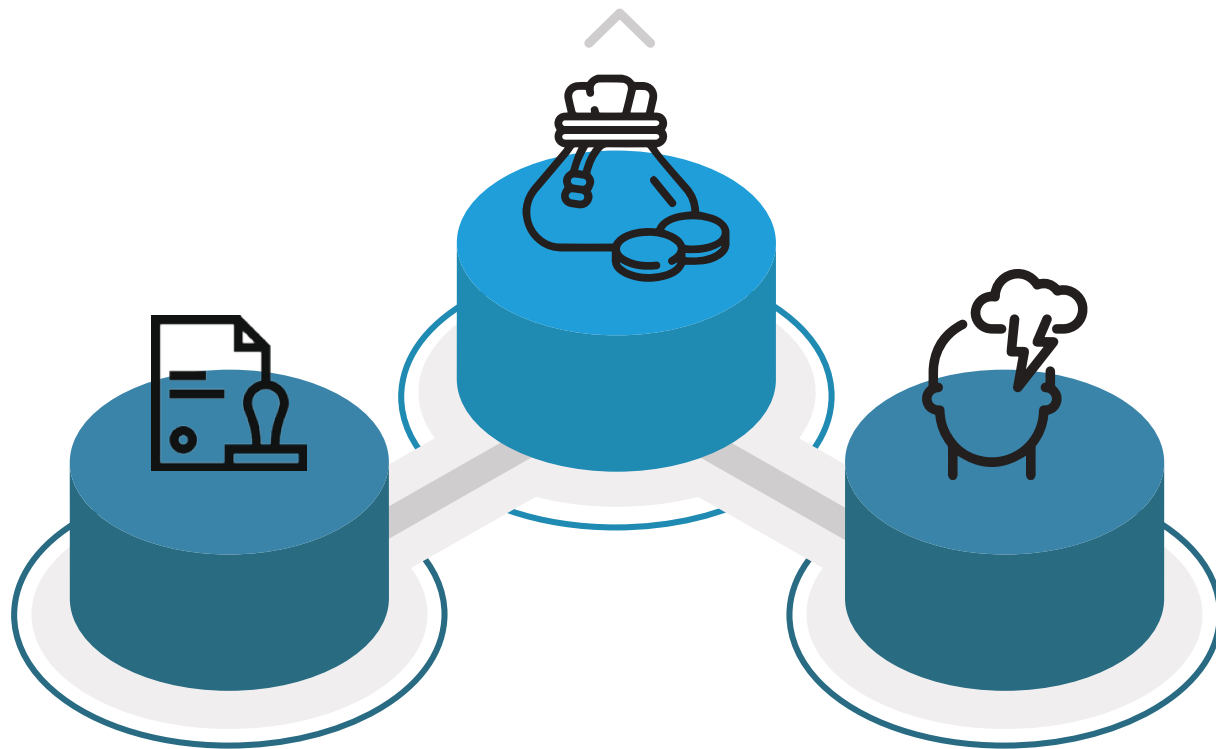
- Permitted Floor Area Ratio (FAR)

According to the Planning Parameter notification (CDA/PLW-192)/2018/, a high rise must have a minimum area of 20 kanal, and the allowed FAR is 3.5.

- The Height as fixed by Civil Aviation Authority (CAA)

The Civil Aviation Rules restrict the building height at 147ft within a 4 km area surrounding the runway, while height limit ranges from 147ft to 476ft for the area from 6km to 9km surrounding the runway. The area beyond 9km to 15km from the runway has a height restriction of 492ft.

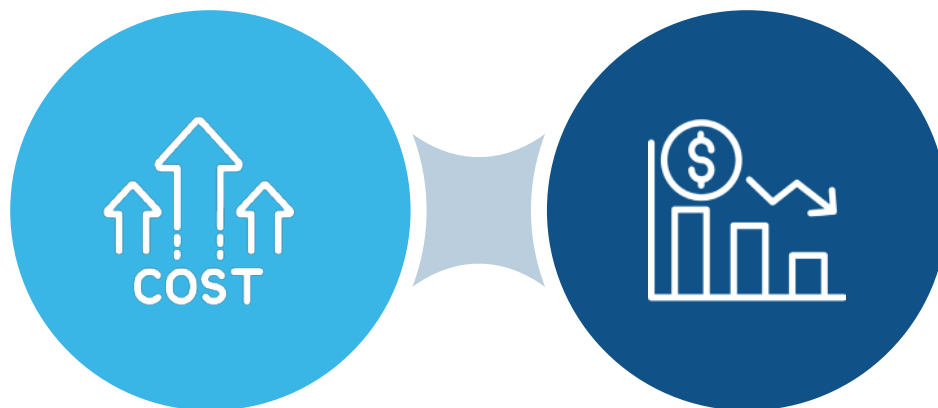
The cost of sludge involved in the permission can be up to 77.0% of the project value



The process of obtaining permission for a high-rise building consumes around 4.31 years

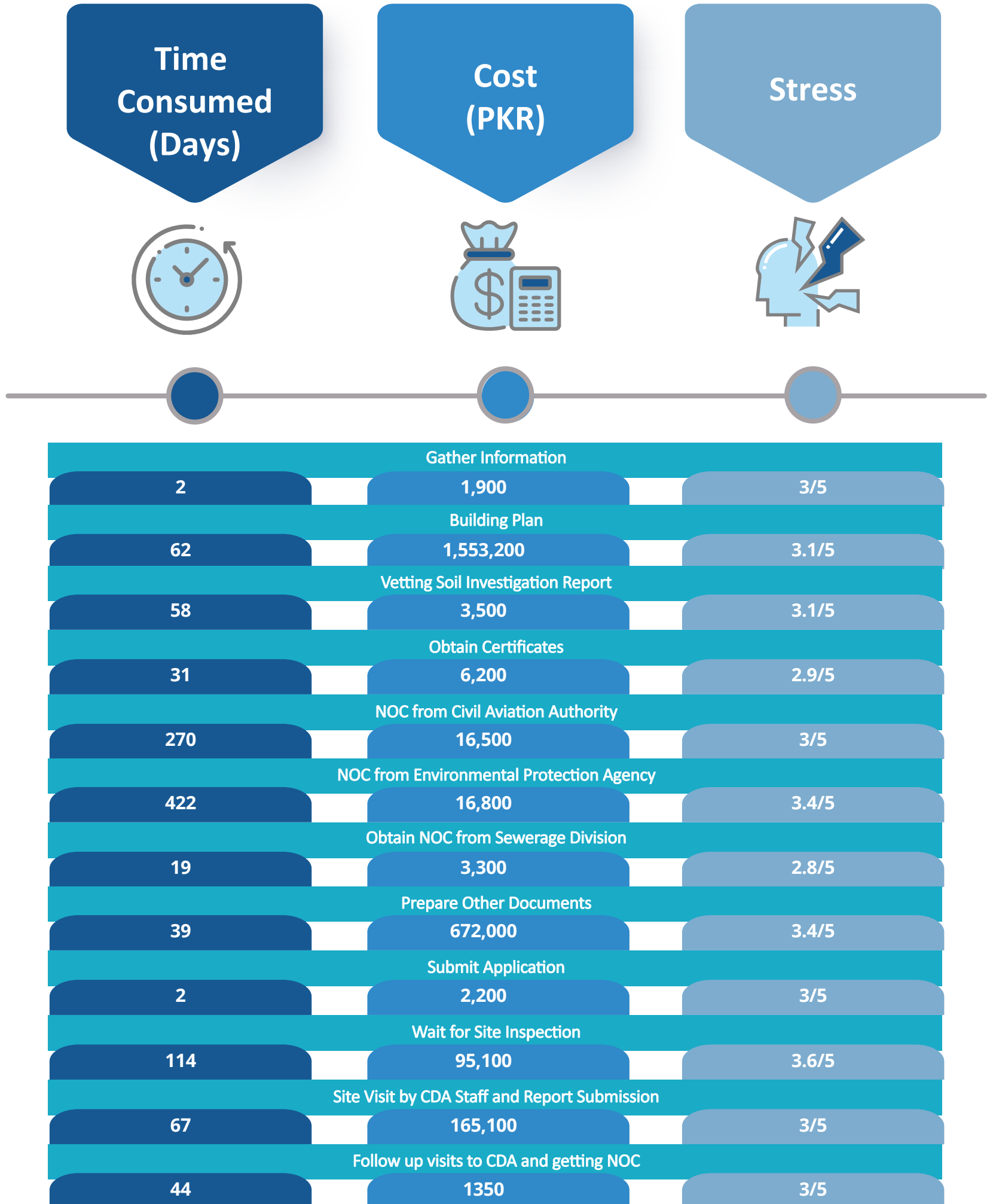
The process involves a moderate stress level (3.2/5)

The sludge involved in obtaining permission for a high-rise costs the economy around 17.5% of GDP.



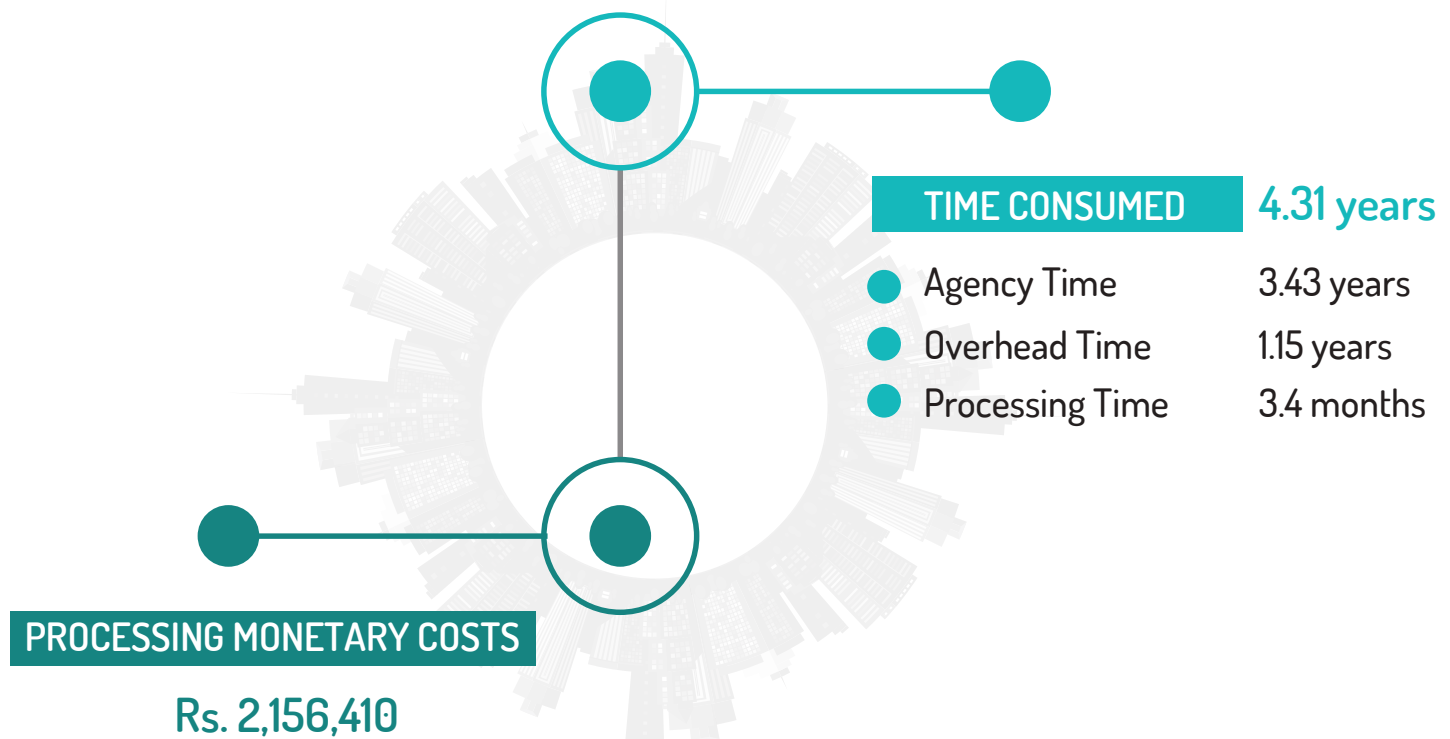
Based on the suggested recommendations the cost of sludge can be reduced by 27%.

CHART-1.1 (A): FLOW CHART OF OBTAINING PERMISSION FOR A HIGH-RISE BUILDING FROM CDA



SOURCES OF THE SLUDGE

The approval for construction of a high-rise building only from the CDA takes almost 3 years. The applicant has to seek approvals from the Civil Aviation Authority (CAA) and the Environmental Protection Agency (EPA) as well, which is the biggest source of sludge. Both agencies together take around 1.5 years (9 months each) to allow the construction of a high-rise building.



Agency Time

The time consumed by the department/agency concerned in processing an activity.

Overhead Time

Part of the day lost due to being involved in this activity.

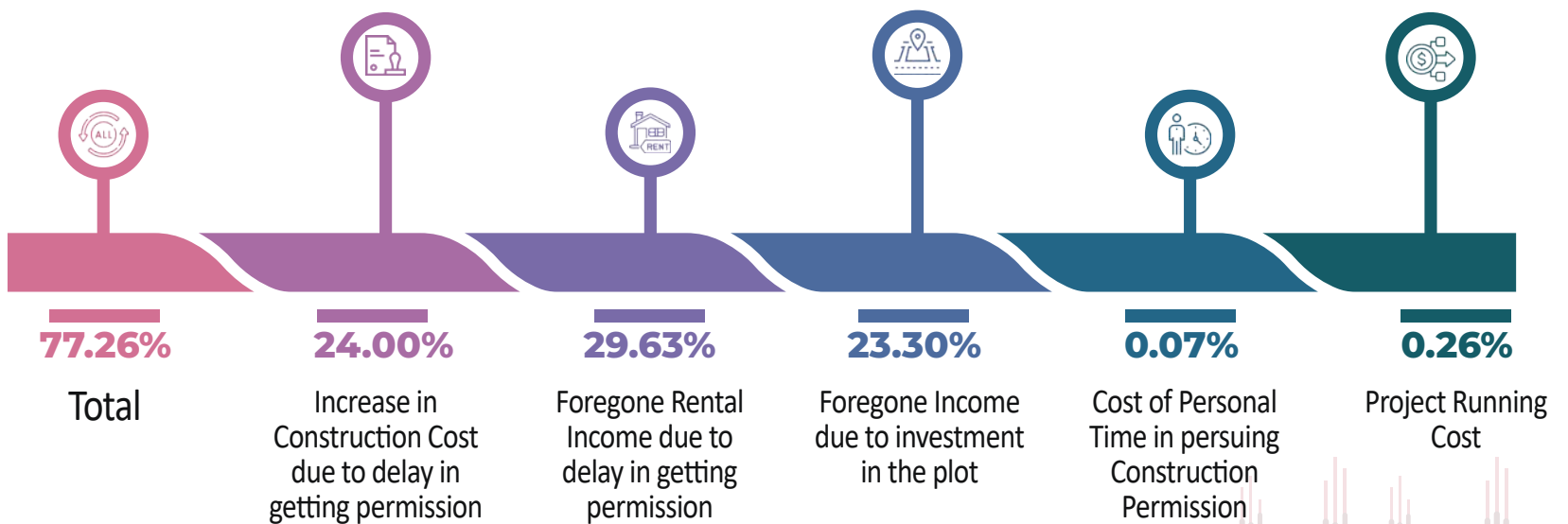
COST OF THE SLUDGE

Sludge involved in obtaining a high-rise construction permit brings an enormous burden for the investor. Some aspects of the burden due to delays are captured by considering the following direct and indirect aspects of financial burden:



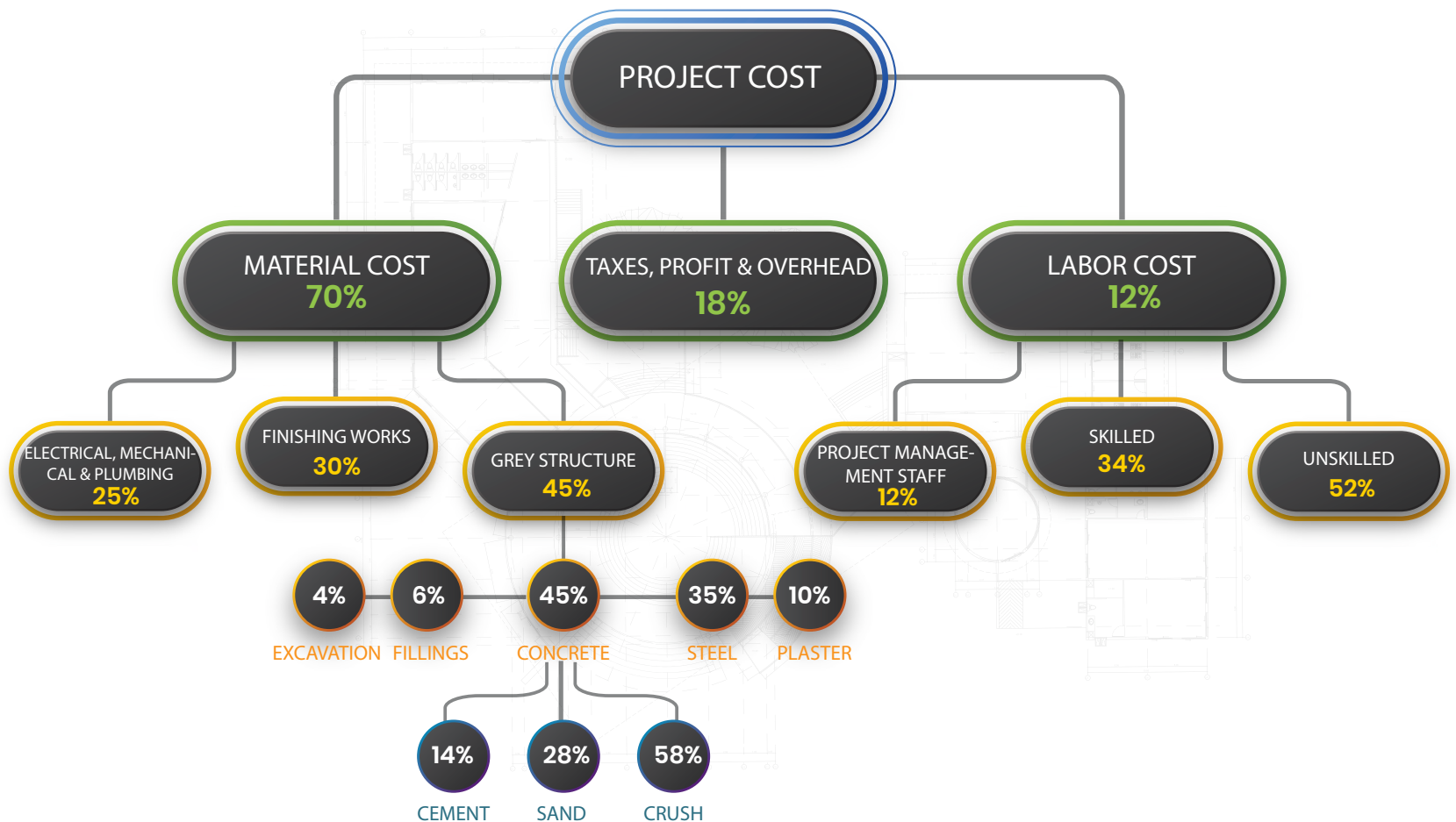
These aspects of cost overruns that we are trying to capture seek to indicate the pervasiveness of the sludge burden.

COST OF THE SLUDGE (% OF PROJECT VALUE)



1. Increase in the Project Cost Due to Delay

The delay in obtaining construction permits for a high-rise causes the actual project cost to exceed the estimated project cost.



A component-wise analysis of the project cost from 2013 to 2017 indicates that the project cost exceed the budgeted cost by 24% of the total project value due to a delay of more than 4 years in obtaining permissions. For instance, one of the essential items in construction is steel bars. The price of 10-12 mm steel bars of 40 grade rose to Rs. 84,000 per metric ton from Rs. 77,500 per metric ton (9% increase in price) during 2013-2017.¹ The average cost of steel in a high-rise accounts for around 11.03% and the hike in the steel price translates into a 1.00% increase in the project cost due to the delays. Details of the increase in construction cost are presented in the table below.

¹ The average price data of inputs have been collected from the monthly Bulletin of Statistics, Pakistan Bureau of Statistics, and through the market survey.

Increase in Product Cost Due to Delays			
Cost Component	Weight (% Project Cost)	% Change (2013-2017)	Impact on the Project Cost (% of Project Value)
Excavation	1.26	33.33	0.42
Filling	1.89	75.00	1.41
Steel	11.03	8.38	0.92
Plaster	3.15	6.54	0.20
Cement	1.98	3.92	0.07
Sand	3.97	7.01	0.27
Crush	8.22	43.83	3.63
Finishing Works	21.00	26.54	5.57
Electrical, Mechanical, and Plumbing	17.50	38.88	6.80
Skilled Labor	6.24	28.88	2.42
Unskilled Labor	4.08	42.85	1.74
Project Management	1.68	25	0.42
Taxes, Profit and Overhead	18.00	0	0
Estimated Project Cost		100	
Realized Project Cost Due to Delays in Permission		124.00	

2. Foregone Rental Values

Another cost borne by the investor due to the delay in getting a construction permit comes in the form of foregone rental values. We assume that the average time for construction of a high-rise is around 5 years. We also assume that another 6 months are consumed in marketing and finishing the deals. Therefore, after the lapse of 5.5 years, the owner of the high-rise may receive the rental income from the project. Hence, a project launched in 2013, will generate rental income in 2019. However, the prolonged delays in the construction permit will hamper the realization of this rental income. Our estimations ² suggest that the cost of sludge in the form of foregone rental income accounts for around 29.63% of the project value.

² See page 26 for details

3. Foregone Income Due to Investment in the Piece of Land

The delays in getting the construction permit also keep the land purchased for the construction unutilized. To capture this aspect, we measured the opportunity cost of investment in the land on the basis of return from a risk-free investment.

The opportunity cost of investment in the piece of land due to sludge accounts for 23.30% of the project value.

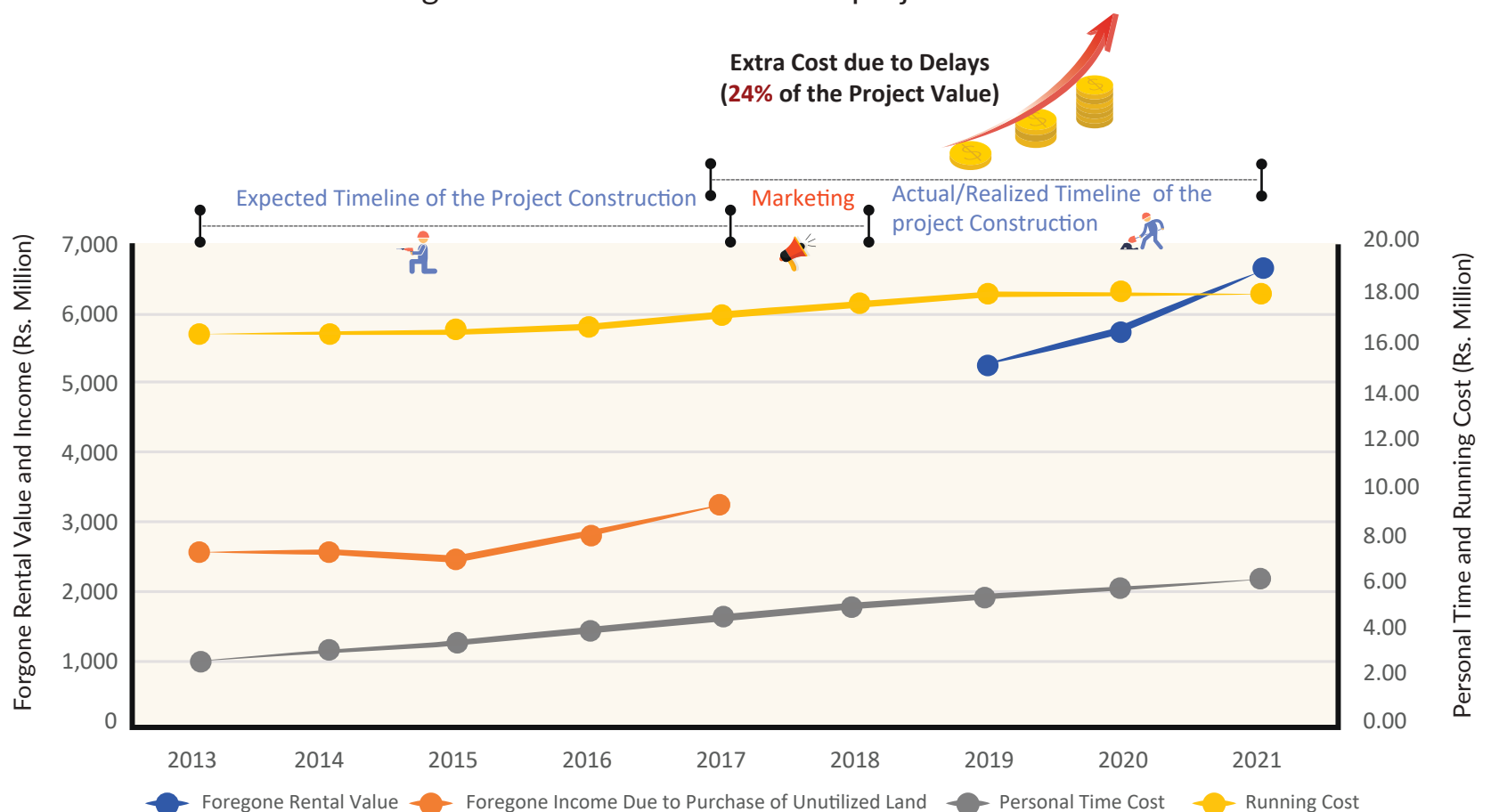
4. Personal Time Cost

The opportunity cost of personal time involved in getting a construction permit from CDA for a high-rise has been captured by assuming the minimum average salary of a developer. As shown in calculations on page 24, this head costs around 0.07% of the project value.

5. Running Cost

Since the project under consideration is a megaproject, the need of maintaining an office for the smooth functioning of the project and its marketing is essential. To capture this overhead cost, we assume an office dedicated to project supervision with 10 staff members in operation since making an application for the permit and throughout getting the permit.

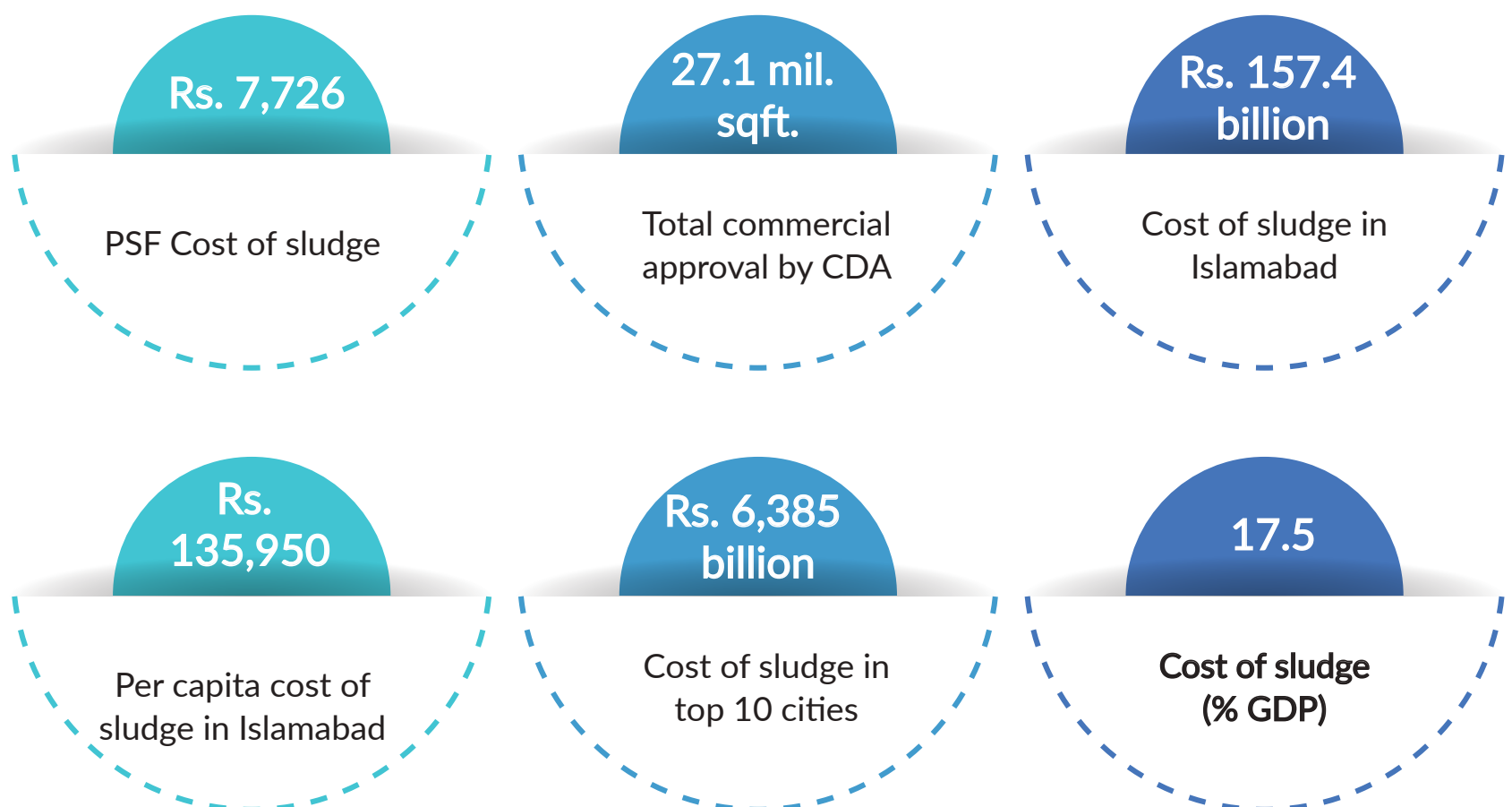
This indirect cost of the sludge accounts for 0.26% of the project value.



COST OF THE SLUDGE IN TERMS OF GDP

To assess the impact of the cost of regulation on the economy, we translate the cost of sludge in obtaining permission (77.26% of project value) in terms of GDP. The task is performed based on the following information: (i) average Per Square Feet (PSF) cost of sludge, (ii) average PSF cost of the project including land value, (iii) commercial projects approved by the CDA, (iv) urban population of top 10 cities of Pakistan.

The underlying assumption for the calculation in the table below is that the 50% commercial approvals by the CDA during the last year represent the approvals for the high-rise construction while the remaining 50% constitute approvals for low or medium-rise construction. This assumption implies that half of the commercial approvals involve lesser sludge since low or medium-rise construction need not be approved by the EPA and CAA. Since the approvals from the EPA and CAA take more than 1.5 years, we further assume that the cost of sludge for low or medium rise is 50% less than the high-rise approvals.



CUTTING THE SLUDGE

1. Eliminating unnecessary steps:

The time and money spent on gathering information as to what is the process of getting a construction permit (learning cost) can be eliminated (for the literate people) if all the required information is posted on the website in a user-friendly manner. In this way, the time spent in making a trip to the CDA office, waiting for the concerned official, and interacting with the official will be saved. Thus, a much lesser time and cost will be spent in gathering the information from the CDA's website, if available.

Indemnity Bond

This is an assurance from the applicant that if any loss is caused due to construction to any public or private property in the neighborhood of construction, then the applicant will make good the loss of the owner of the said property. This can be made a legally enforceable part of the application form, through a suitable amendment in the relevant law. No separate indemnity bond would be required then.



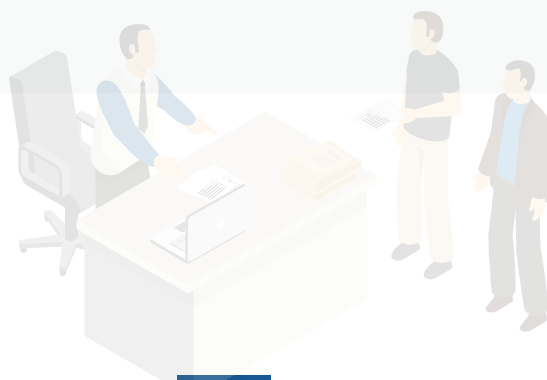
NOC from CAA

The CAA can specify maximum height allowable in specific areas and these can be communicated to respective Development Authorities like the CDA, responsible for approving the construction Design. Based on these specifications the CDA may approve the building plan. The CDA and CAA should be maintaining close liaison for changes in specifications from time to time – The applicant need not be required to obtain NOC from CAA.



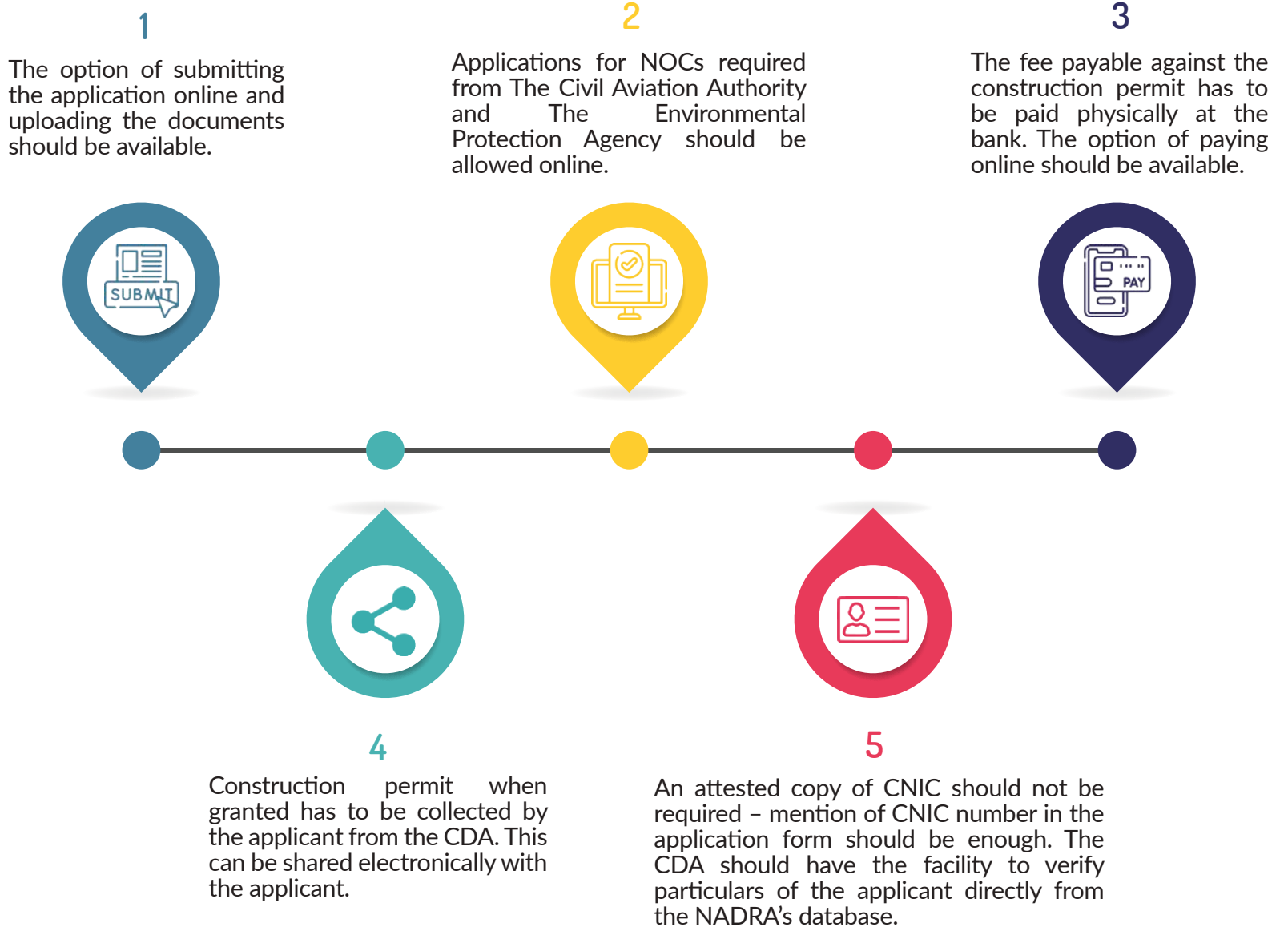
NOC from Environmental Protection Agency (EPA)

The EPA may convey its requirement to the CDA and the CDA may allow construction based on the said specification. An alternate could be that EPA can station an officer at CDA/establish a cell at CDA. This cell may process the applications. The applicant should not be required to obtain a separate NOC from the EPA.

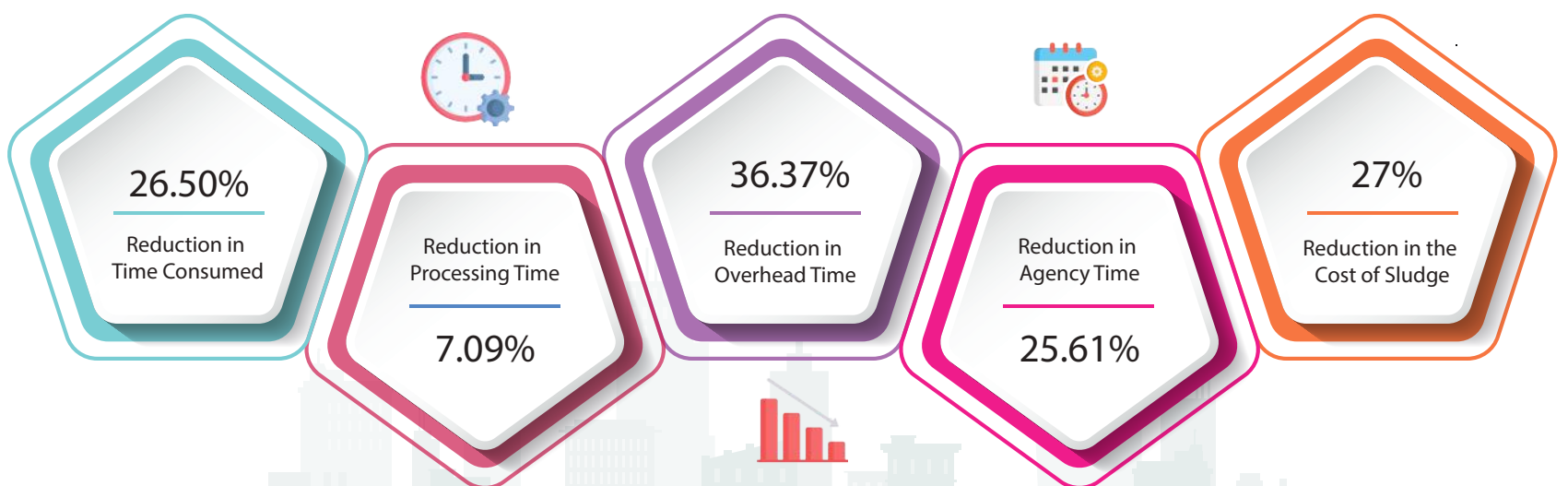


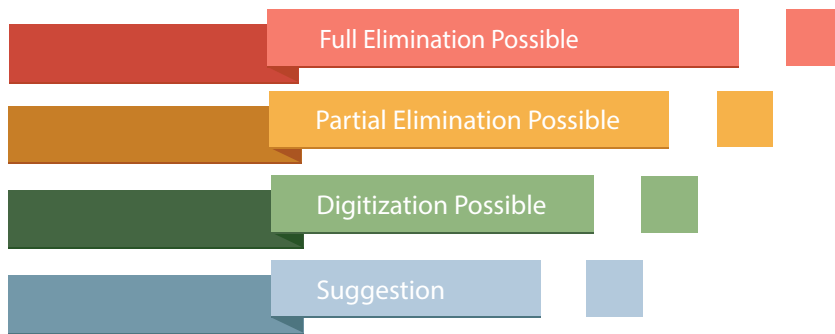
2. DIGITIZATION

Submission of Application and Documents to CDA



Cutting the Sludge: Reduction in the Time Consumed & Cost Based on the Recommendations





Color Legend

Table-1.1 (A) : Steps Required and Time Consumed in Obtaining Construction Permit for a High-rise from the Capital Development Authority (CDA)

No	Steps	Description	Time (Minutes)				Overhead Time (Minutes)	Agency Time
			Travel	Waiting	Transaction/Process	Total		
1	Gather Information	Visit CDA	45			45	480 (1 day)	21600 (45day)
		Meet official to gather information		30	30	60		
		Finish the day	45			45		
2	Prepare Documents	Visit CDA	45			45	24000 (54 days)	
		Apply through one window (applications to Revenue Officer and Deputy Director BCS)		30	120	150		
		Finish the day	45			45		
		Visit-2 CDA	45			45		
		To collect NOC after 12 days		30	30	60		
		Apply for No Demand Certificate(NDC)]		30	60	90		
		Finish the day	45			45		
		Visit-2 CDA	45			45		
		To collect NDC after 7 days		30	30	60		
		Apply for Transfer Letter		30	60	90		
		Finish the day	45			45		
		Visit-3 CDA	45			45		
		Submit original document (after 7 days)		60	480	540		
		Finish the day	45			45		
		Visit-4 CDA	45			45		
		Collect transfer letter (after 15 days)		30	30	60		
		Finish the day	45			45		
		Building Plan (6 copies)	Visit-Architect	45				45
Brainstorm			30	360	390			
Finish the day	45				45			
Visit-2: Architect for plan	45				45			

			Hire-Architect			180	180	14400 (30 day)				
			Finish the day	45			45					
			Design by Architect			14400	14400					
			Visit-3 to collect building plan	45			45					
			Meet the Architect		20	30	50					
			Finish the day	45			45					
		Soil Investigation Report			Visit consultant	45			45	960 (2 day)	268,808 (56day)	
					Hire Geological consultant		30	120	150			
					Finish the day	45			45			
					Assessment of the area				0			
					Visit-2: Geological consultant	45			45			
					Receive report		30	60	90			
		Consultant Certificate				Visit engineer				480 (1 day)	14400 (30day)	
						Receive report		30	180			210
						Finish the day	45					
		Fire Fighting/Life-safety Certificate				Visit Architect	45			960 (2 day)		
						Collect certificate		30	30			60
						Finish the day	45					45
		Indemnity Bond for Life-safety				Collect stamp paper	10	20	10	960 (2 day)	960 (2 day)	
						Print affidavit		10	10			20
						Witnesses attestation	90	15	480			585
						Notarize affidavit		10	10			20
		Possession Letter copy				90	10	10	110	14400(30 day)		
		NOC from Civil Aviation Authority				Visit CAA	45			1440 (3 days)	129600 (270 day)	
						Gather information		60	60			120
						Finish the day	45					45
						Visit-2 CAA	45					45
Submit documents/application						60	120	180				
Finish the day	45							45				
Visit-3 CAA	45							45				
Receive Certificate						30	30	60				
Finish the day	45							45				
NOC from Environmental Protection Authority				Visit Ministry	45			72000 (15 day)	129600 (270 day)			
				Submit Plan		30	120			150		
				Finish the day	45					45		
				Review by Ministry environmental consultants						0		
				Amendments	90	30	480			600		
				Visit Ministry	45							
				Submit revised plan		30	120			150		
				Finish the day	45					45		
				Visit 2: Ministry	45					45		
				Receive NOC		30	30			60		
Finish the day	45			45								
Attested CNIC Copy				CNIC copy	45	5	10	240 (1/2 day)				
				Attestation	120	45	5			170		
Indemnity Bond				Collect stamp paper	10	20	10	1680 (3.5 day)				
				Print affidavit		10	10			20		
				Witnesses attestation	90	15	480					
				Notarize affidavit		10	10			20		

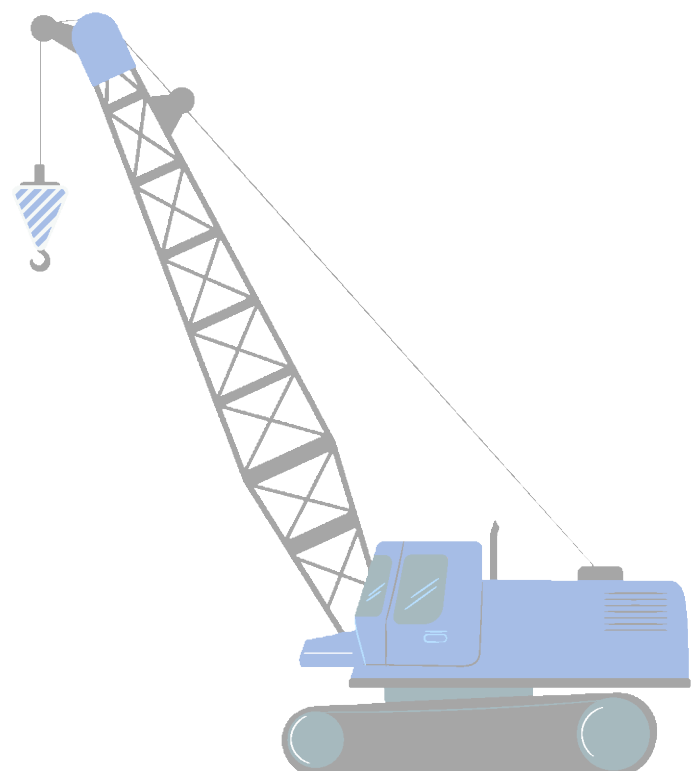
		Forms signed by architect, engineer, and owner	Visit CDA	45			45		
			Fill the form			30	30		
			Finish the day	45			45		
		Pay order	Visit National Bank	45			45	240 (1/2 day)	
			Ask for pay order		60	15	75		
			Finish the day	45			45		
		Soundness and Stability Certificate	Visit Engineer	45			45	1440 (1 day)	
			Get certificate		30	240	270		
			Finish the day	45			45		
		NOC from sewerage division	Visit NCI	45			45	4800 (10 day)	3360 (7 day)
			Apply for NOC		60	240	300		
			Finish the day	45			45		
			Visit-2: NCI	45			45		
			Collect NOC (after 7 days)		30	60	90		
		Finish the day	45			45			
3	Visit-2 CDA	Visit CDA	45			45	240 (1/2 day)		
		Submit Application		30	90	120			
		Finish the day	45			45			
4	Account Section Clearance	Visit-3 CDA	45			45	14400 (10 day)	12000 (25 day)	
		Pursue Application		30	60	90			
		Finish the day	45			45			
		Visit-4 CDA	45			45			
		NOC from EM1DTE		30	240	270			
		Finish the day	45			45			
5	DVC meeting	Visit 5 CDA	45			45			
		Presentation at DVC meeting by architect		120	120	240			
		Finish the day	45			45			
		Visit 6 to CDA	45			45			
		Enquire about minutes of DVC meeting		120	120	240			
		Receive letter of Approval in principle		30	120	150			
		Finish the day	45			45			
6	Design vetted structure	Invite bids	90	60	30	180			
		Receive bids			3360	3360			
		Allot bid			7200	7200			
		Receive report			14400	14400			
7	Building Inspector	Visit-5 CDA	45			45	4800 (10 day)	1440 (3 day)	
		Pursue the Application so that it may be forwarded to the building inspector		30	120	150			
		Finish the day	45			45			
8	Building Inspector's visit			60	60		1440 (3 day)		
9	Report Submission by Field-Officer				0	28800 (60 day)	3360 (7 day)		
10	Visit-6 CDA	Travel to CDA	45			45	14400 (30 day)	7200 (15 day)	
		Collect approval certificate		30	45	75			
		Finish the day	45			45			
Total Time (Days)							99	370	1192
Aggregate Time (Months)									55.3

Table-1.1 (B): Monetary Cost in Obtaining High-rise Construction Permit CDA

No		Steps	Description	Cost			
				Travel	Fee	Total	
1		Gather Information	Visit CDA	500		500	
			Meet official to gather information			0	
			Finish the day	500		500	
2		Prepare Documents	Allotment/ Transfer Letter	Visit CDA	500		500
				Apply to Revenue Officer and Deputy Director BCS	500		500
				Finish the day			0
				Visit-2 CDA			0
				To collect NOC after 12 days	500		500
				Apply for No Demand Certificate(NDC)]		100000	100000
				Finish the day	500		500
				Visit-2 CDA			0
				To collect NDC after 7 days	500		500
				Apply for Transfer Letter			0
				Finish the day	500		500
				Visit-3 CDA	500		500
				Submit original document (after 7 days)	500		500
				Finish the day	500		500
				Visit-4 CDA	500		500
			Collect transfer letter (after 15 days)			0	
			Finish the day	500		500	
			Building Plan (6 copies)	Visit-Architect	500		500
				Brainstorm			0
				Finish the day	500		500
				Visit-2: Architect for plan	500		500
				Hire-Architect		1,500,000	1,500,000
				Finish the day	500		500
				Design by Architect			0
				Visit-3 to collect building plan	500		500
				Meet the Architect			0
				Finishing the day	500		500
			Soil Investigation Report	Visit consultant	500		500
				Hire Geological consultant			0
				Finish the day	500		500
	Assessment of the area			0			

		Visit-2: consultant	500		500
		Receive report			0
		Finish the day	500		500
	Consultant Certificate	Visit engineer	500		500
		Receive report			0
		Finish the day	500		500
	Fire Fighting/Life-safety Certificate	Visit Architect	500		500
		Collect certificate			0
		Finish the day	500		500
	Indemnity Bond for Life-safety	Collect stamp paper	500	150	650
		Print affidavit		100	100
		Witnesses attestation	1000	200	1200
		Notarize affidavit			0
	Possession Letter copy				0
	NOC from Civil Aviation Authority	Visit CAA	500		500
		Gather information			0
		Finish the day	500		500
		Visit-2 CAA	500		500
		Submit documents/application		10000	10000
		Finish the day	500		500
		Visit-3 CAA	500		500
		Receive Certificate			0
		Finish the day	500		500
		NOC from Environmental Protection Authority	Visit Ministry	500	
	Submit Plan			10000	10000
	Finish the day		500		500
	Review by Ministry environmental consultants				0
	Amendments				0
	Visit 2: Ministry		500		500
	Submit revised plan				0
	Finish the day				0
	Visit 3: Ministry		500		500
	Receive NOC				0
	Finish the day	500		500	
	Attested CNIC Copy	CNIC copy		10	10
		Attestation			0
	Indemnity Bond	Collect stamp paper	500		500
		Print affidavit	500	150	650
		Witnesses attestation		100	100
		Notarize affidavit	1000	200	1200
	Forms signed by architect, engineer, and owner	Visit CDA	500		500
		Fill the form			0
		Finish the day	500		500
	Pay order	Visit National Bank	500		500
		Ask for pay order		500000	500000
		Finish the day	500		500
	Soundness and Stability Certificate	Visit Engineer	500		500
		Get certificate			0
		Finish the day	500		500
	NOC from sewerage division	Visit NCI	500		500
		Apply for NOC			0
		Finish the day	500		500
		Visit-2: NCI	500		500
		Collect NOC (after 7 days)			0
		Finish the day	500		500

3	Visit-2 CDA	Visit CDA	500	500
		Apply for Construction Permit		0
		Finish the day	500	500
4	Account Section Clearance	Visit-3 CDA	500	500
		Pursue Application		0
		Finish the day	500	500
		Visit-4 CDA	500	500
		NOC from EM1DTE to one window		0
5	DVC meeting	Finish the day	500	500
		Visit 6 to CDA	500	500
		Enquire about minutes of DVC meeting		0
		Receive letter of principal approval		0
		Finish the day	500	500
		Visit 5 CDA	500	500
6	Design vetted structure	Invite bids	500	500
		Receive bids		0
		Allot bid		0
		Receive report	500	500
7	Building Inspector	Visit-7 CDA	500	500
		Pursue the Application so that it may be forwarded to the building inspector		0
		Finish the day	500	500
8	Building Inspector's visit			0
9	Report Submission by Field-Officer			0
10	Visit-8 CDA	Visit 8 to CDA	500	500
		Collect approval certificate		0
		Finish the day	500	500
Total Cost				2,156,4



Box- 2: Stress Percentage

The distribution of stress across steps has been calculated by multiplying the total process time (including travel, wait, and transaction time) of each step with the stress level. The Stress % column in the table contains a percentage representation of stress distribution.



Table-1.1 (C) : Stress Involved in Obtaining Monetary and Opportunity Cost in Obtaining High-rise Construction Permit CDA

No	Steps	Description	Stress Level	Weighted Stress
1	Gather Information	Visit CDA	2	0.1
		Meet official to gather information	5	0.2
		Finish the day	2	0.1
2	Prepare Documents	Visit CDA	2	0.1
		Apply through one window (applications to Revenue Officer and Deputy Director BCS)	5	0.4
		Finish the day	2	0.1
		Visit-2 CDA	2	0.1
		To collect NOC after 12 days	4	0.1
		One Window (Apply No Demand Certificate)	5	0.3
		Finish the day	2	0.1
		Visit-2 CDA	2	0.1
		To collect NDC after 7 days	5	0.2
		One Window (Apply Transfer Application)	5	0.3
		Finish the day	2	0.1
		Visit-3 CDA	2	0.1
		Submit origin document (after 7 days)	5	1.6

			Finish the day	2	0.1
			Visit-4 CDA	2	0.1
			Collect transfer letter (after 15 days)	5	0.2
			Finish the day	2	0.1
		Building Plan (6 copies)	Visit-Architect	2	0.1
			Brainstorm	5	1.1
			Finish the day	2	0.1
			Visit-2: Architect for plan	2	0.1
			Hire-Architect	5	0.5
			Finish the day	2	0.1
			Design by Architect	4	33.9
			Meet the Architect	5	0.1
			Finishing the day	2	0.1
		Soil Investigation Report	Visit consultant	2	0.1
			Hire Geological consultant	5	0.4
Finish the day	2		0.1		
Assessment of the area	5		0.0		
			Visit-2: consultant	2	0.1
			Receive report	4	0.2
			Finish the day	2	0.1
		Consultant Certificate	Visit engineer	2	0.0
			Receive report	4	0.5
			Finish the day	2	0.1
		Fire Fighting/Life-safety Certificate	Visit Architect	2	0.1
			Collect certificate	5	0.2
			Finish the day	2	0.1
		Indemnity Bond for Life-safety	Collect stamp paper	4	0.0
			Print affidavit	4	0.1
			Witnesses attestation	5	0.1
			Notarize affidavit	3	1.0
		Possession Letter copy		3	0.1
		NOC from Civil Aviation Authority	Visit CAA	2	0.1
			Gather information	5	0.1
			Finish the day	2	0.1
			Visit-2 CAA	2	0.1
			Submit documents/application	5	0.1
			Finish the day	2	0.2
Visit-3 CAA	2		0.1		
Receive Certificate	5		0.1		
Finish the day	2		0.1		
NOC from Environmental Protection Authority	Visit Ministry	2	0.1		
	Submit Plan	5	0.1		
	Finish the day	2	0.2		
	Review by Ministry environmental consultants	5	0.1		
	Amendments	5	0.0		

		NOC from Environmental Protection Authority	Travel to Ministry	2	0.7
			Submit revised plan	5	0.0
			Finish the day	2	0.2
			Travel to Ministry	2	0.1
			Receive NOC	5	0.1
		Finish the day	2	0.1	
		Attested CNIC Copy	CNIC copy	3	0.1
			Attestation	5	0.2
		Indemnity Bond	Collect stamp paper	3	0.3
			Print affidavit	4	0.1
			Witnesses attestation	5	0.1
			Notarize affidavit	3	0.0
		Forms signed by architect, engineer, and owner	Visit CDA	2	0.0
			Fil the form	5	0.1
			Finish the day	2	0.0
		Pay order	Visit National Bank	2	0.1
			Ask for pay order	5	0.1
			Finish the day	2	0.1
		Soundness and Stability Certificate	Visit Engineer	2	0.1
			Get certificate	5	0.1
			Finish the day	2	0.3
NOC from sewerage division	Visit NCI Lal Masjid	3	0.1		
	Apply for NOC	5	0.1		
	Finish the day	2	0.4		
	Visit-2: NCI	2	0.1		
	Collect NOC (after 7 days)	3	0.1		
Finish the day	2	0.1			
3	Visit-2 CDA	Visit CDA	2	0.1	
		Application Submission at on Window	5	0.1	
		Finish the day	2	0.1	
4	Account Section Clearance	Visit-3 CDA	2	0.1	
		Pursue Application	5	0.1	
		Finish the day	2	0.1	
		Visit-4 CDA	2	0.1	
		NOC from EM1DTE to one Window	5	0.1	
		Finish the day	2	0.3	
5	DVC meeting	Visit 5 CDA	2	0.1	
		Presentation at DVC meeting by architect	5	0.1	
		Finish the day	2	0.3	
		Visit 6 to CDA	2	0.1	
		Enquire about minutes of DVC meeting	5	0.1	
		Receive letter of Approval in principle	5	0.7	
		Finish the day	2	0.2	
6	Design vetted structure	Invite bids	5	0.1	
		Receive bids	5	0.5	
		Allot bid	5	9.9	
		Receive report	5	21.2	
7	Building Inspector	Visit-5 CDA	2	16.9	
		Pursue the Application so that it may be forwarded to the building inspector	5	0.1	
		Finish the day	2	0.2	
8	Building Inspector's visit	5	0.1		
9	Report Submission by Field-Officer	1	0.0		
10	Visit-6 CDA	Travel to CDA	2	0.0	
		Collect approval certificate	5	0.1	
		Finish the day	2	0.1	

Calculation of Cost of the Sludge

1. Calculations of Foregone Rental Income

To calculate the foregone rental value, we utilized the information about rents of commercial buildings listed at zameen.com, specifically properties available at the Centaurus Islamabad, and average out the rental value per square foot for Islamabad. Furthermore, we assume that the high-rise building under consideration has been developed on a plot of 53 Kanals with 700,000 square feet constructed area. The table below shows the foregone rental value based on average rent Rs. 792 per square foot during 2021. The rental values for 2019 and 2020 are calculated by assuming a 10% annual increase in the rents, which is a standard practice in the real estate market. The total cost of the project under consideration is Rs. 59.59 billion.

Foregone Rental Value (Rs. Billion)	
2019	5.15
2020	5.85
2021	6.65
Total	17.65

2. Calculations of Foregone Income Due to Investment in the Piece of Land

The amount involved in the purchase of land is again calculated based on the average price of commercial plots available for sale in the vicinity of Blue Area Islamabad, at zameen.com. Since the plot size we assumed is 53 Kanals the average sale price of commercial plots is around Rs. 200,000 per square foot. Therefore, the investment required to purchase this hypothetical plot is about Rs. 57.41 billion at present (february,2022). To compute the value of the same piece of land in 2013, we utilize the annualized average increase in the price of commercial plot from 2013 to 2021. The information was again gathered from zameen.com. Our estimates show that the price of the plot was around Rs. 25.74 billion in 2013. Based on the land price in 2013, the table below contains the opportunity cost of the investment in the piece of land.

Foregone Income Due to Purchase of Land (Rs. Billion)	
2013	2.57
2014	2.57
2015	2.54
2016	2.92
2017	3.25
Total	13.88

3. Calculations of Personal Time Cost

The opportunity cost of personal time involved in getting a construction permit from CDA for a high-rise has been captured by assuming the minimum average salary of a developer, which is around Rs. 550,000 per month during 2021. The cost of personal time from 2013 to 2020 was then calculated regressively by deflating the cost of personal time of 2021 by a factor of 10%. The table below contains the annualized cost of personal time attributed to delays.

Personal Time Cost (Rs. Million)	
2013	2.84
2014	3.15
2015	3.50
2016	3.89
2017	4.33
2018	4.18
2019	5.36
2020	5.94
2021	6.60
Total	40.43

4. Calculation of Running Cost

The opportunity cost of personal time involved in getting a construction permit from CDA for a high-rise has been captured by assuming the minimum average salary of a developer, which is around Rs. 550,000 per month during 2021. The personal time cost from 2013 to 2020 was then calculated regressively by deflating the personal time cost of 2021 with a factor of 10%. The table below contains annualized personal time cost of delays.

Running Cost (Rs. Million)	
2013	16.60
2014	16.77
2015	16.94
2016	17.11
2017	17.29
2018	17.46
2019	17.64
2020	17.82
2021	18.00
Total	155.66



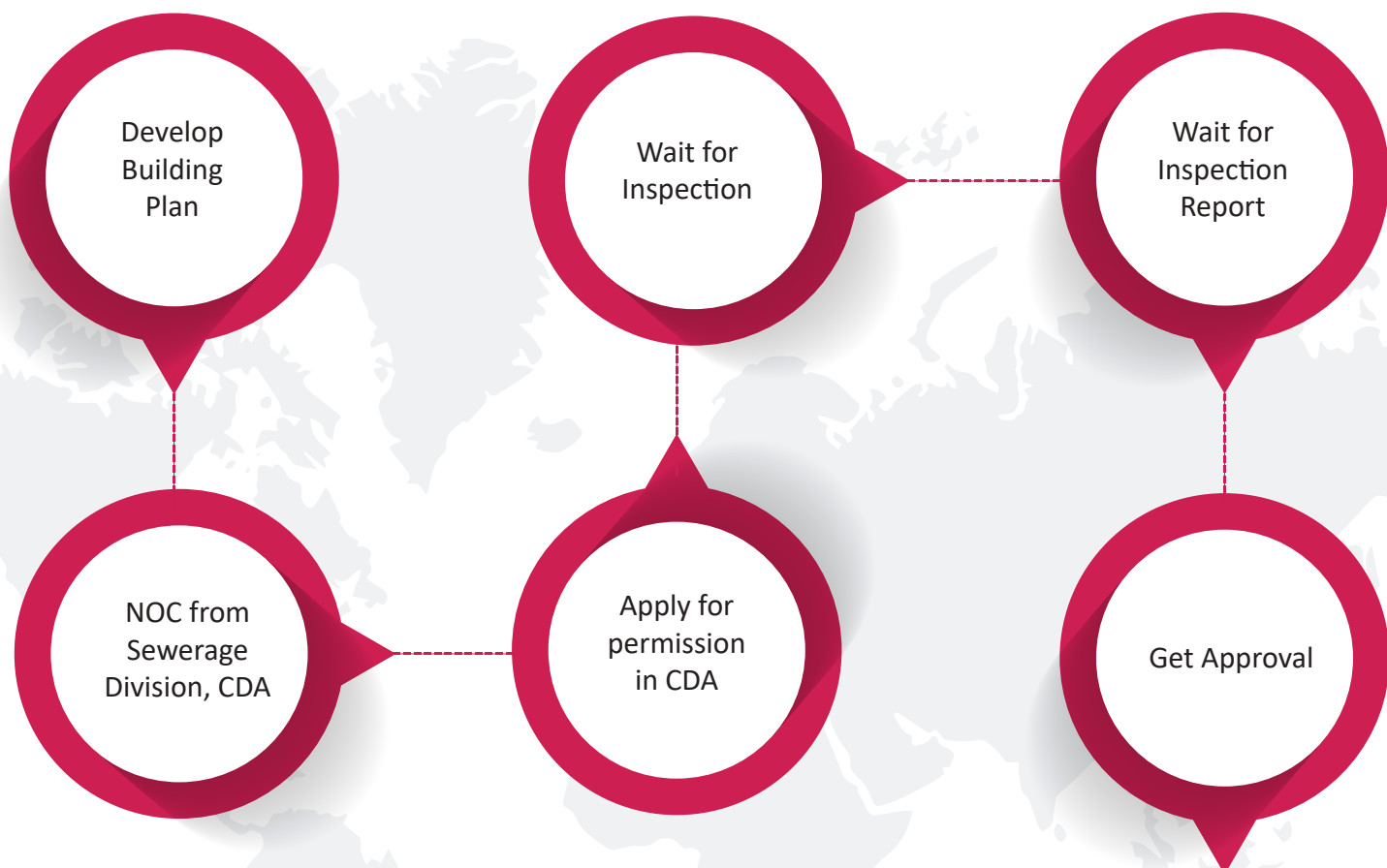


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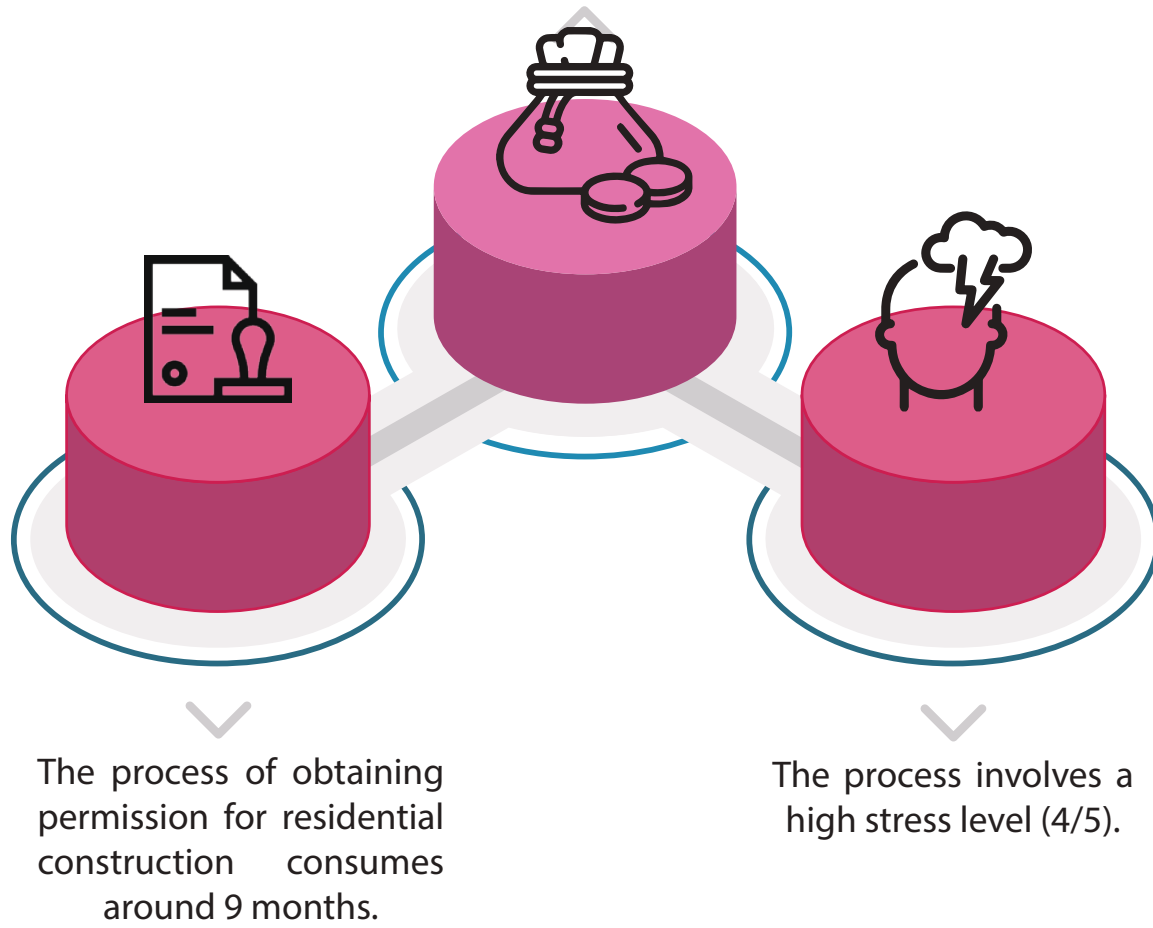
OBTAINING PERMISSION FOR RESIDENTIAL CONSTRUCTION FROM THE CAPITAL DEVELOPMENT AUTHORITY, ISLAMABAD

As per the Islamabad Capital Territory Building Control Regulations (2020), a building or a structure cannot be constructed without prior permission from the Capital Development Authority (CDA).

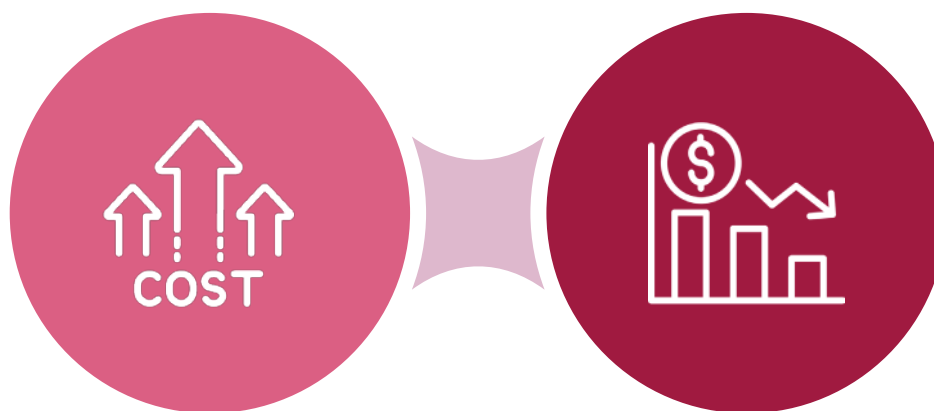
OBTAINING PERMISSION FOR RESIDENTIAL CONSTRUCTION FROM THE CAPITAL DEVELOPMENT AUTHORITY, ISLAMABAD.



The cost of sludge involved in the permission can be up to 5.0 % of the project construction cost.

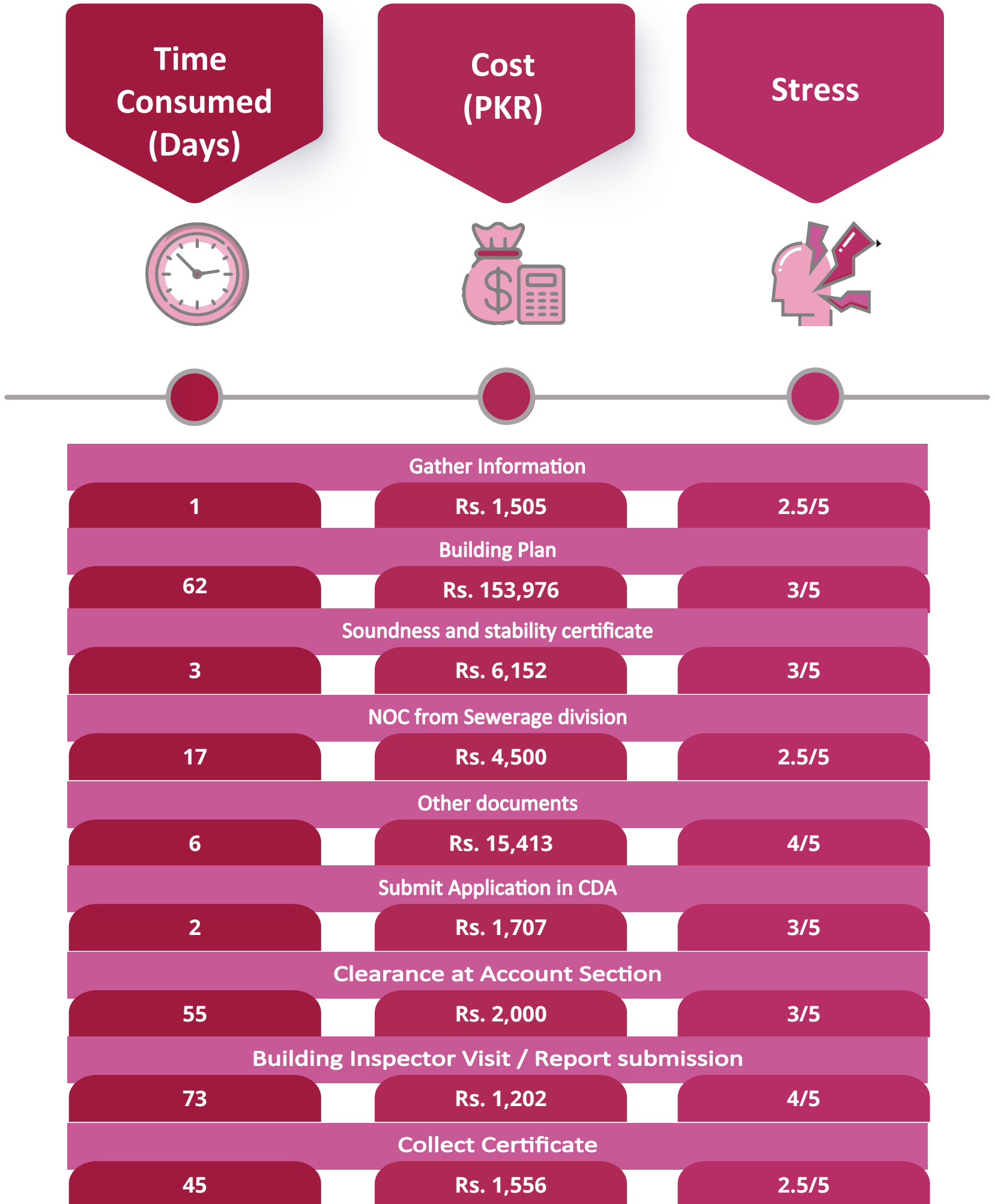


The sludge involved in obtaining permission for a residential construction costs the economy around 0.63 % of GDP.



Based on the suggested recommendations the cost of sludge can be reduced by 38%.

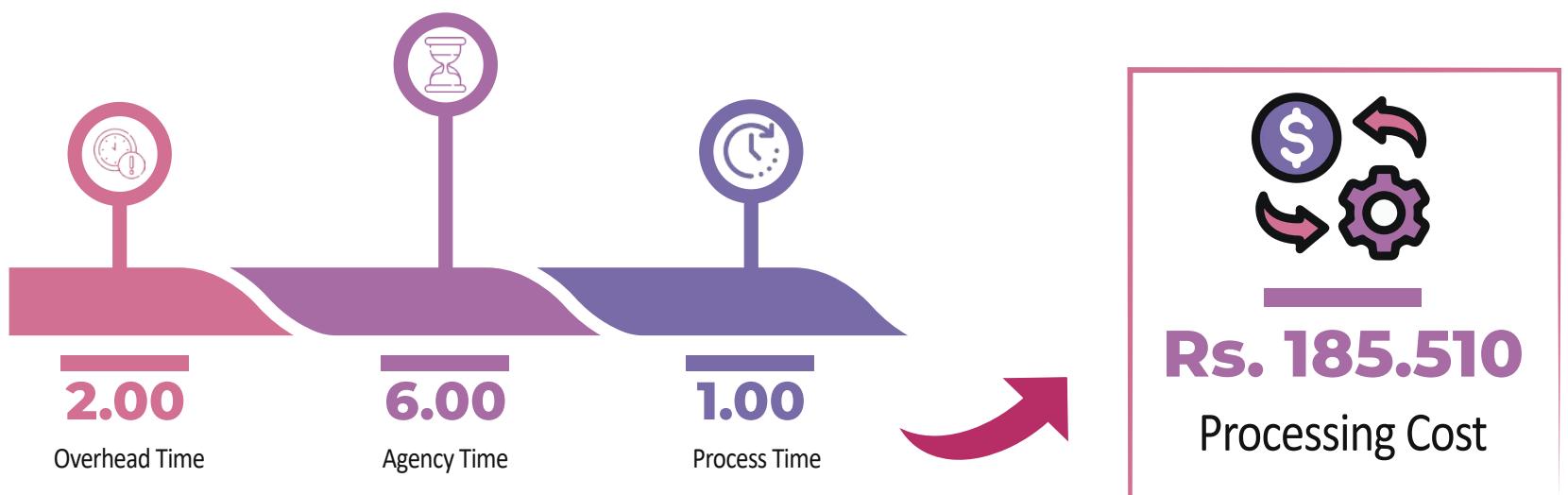
CHART-1.2 (A): OBTAINING PERMISSION FOR RESIDENTIAL CONSTRUCTION FROM CDA, ISLAMABAD.



SOURCES OF THE SLUDGE

The main sources of sludge in obtaining a residential construction permit are (i) seeking clearance from the Account Section of CDA and (ii) waiting for site inspection and submission of the inspection report by the CDA inspector. Both steps take more than 4 months. Moreover, to get permission the applicant must visit CDA, on average, 7 times.

TIME CONSUMED (MONTHS)



Opportunity Cost

Income that may be earned if the time consumed in this activity is put to an alternate use. It is measured by multiplying total processing time with the hourly per capita Gross National Income.

Agency Time

The time consumed by the department/agency concerned in processing an activity.

Overhead Time

Part of the day lost due to being involved in this activity for a fraction of the day.

COST OF THE SLUDGE

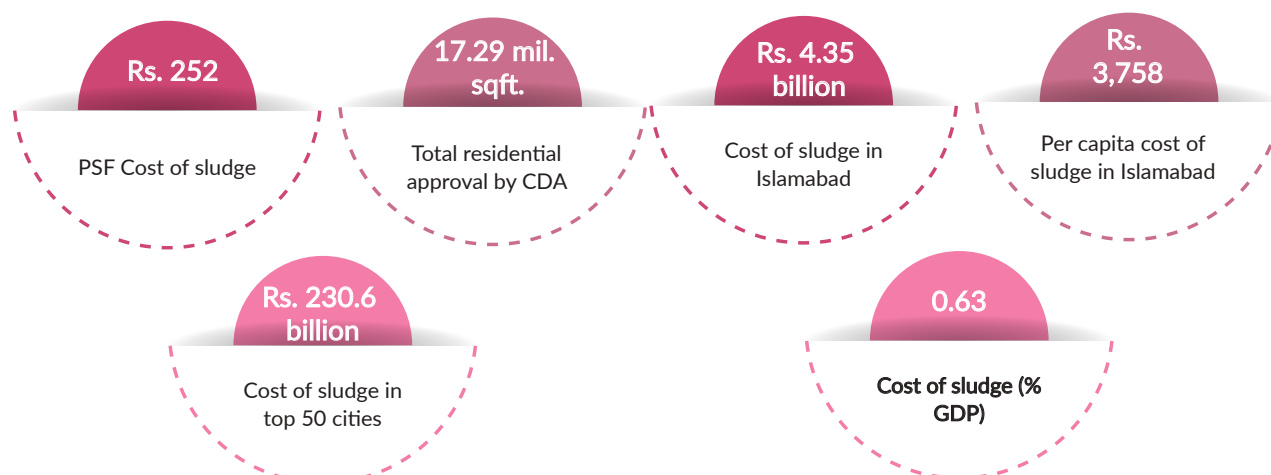
The delay in obtaining construction permit for a stand-alone house causes actual cost to exceed the estimated cost by 5.00% of the construction cost. The average increase in construction material prices over the last 9 months (the delay period) is given in the table along with its impact on the project cost.

Cost Component	Weight (% Project Cost)	% Change (Over the last 9 months)	Impact on the Construction Cost (% of Project Value)
Brick and Sand	14.58	0.86	0.12
Cement, Kassar and Rebar	13.57	12.92	1.75
Labor	15.55	5.33	0.82
Wiring and Plumbing	4.89	17.14	0.83
Grills, Gate, and Doors	3.4	20.25	0.68
Others	0.63	0	0
Finishing Cost	47.33	1.63	0.77
Estimated Project Cost			100
Realized Project Cost Due to Delays in Permission			1.05

COST OF THE SLUDGE IN TERMS OF GDP

To assess the impact of the cost of regulation on the economy, we translate the cost of sludge in obtaining residential permission (5.0% of construction cost) in terms of GDP. The task is performed based on the following information: (i) average Per Square Foot (PSF) cost of sludge, (ii) average PSF cost of the project including land value, (iii) residential projects approved by the CDA, (iv) urban population of top 50 cities of Pakistan.

The table below contains the calculations that have been used to measure the cost of sludge at the macro-level.



CUTTING THE SLUDGE

1- ELIMINATING UNNECESSARY STEPS



Save Time and Money

01

The time and money spent on information gathering can be eliminated (for the literate people) if all the required information is posted on the website in a user-friendly manner – the time spent in making a trip to the CDA office, waiting for the concerned official, and interacting with the official will be saved – a much lesser time and cost will be spent in gathering the information from the CDA's website, if available.

NOC from the sewerage division, located in a separate building, has to be obtained. This can be dealt with within the CDA. The applicant need not be required to make an application and pursue this.

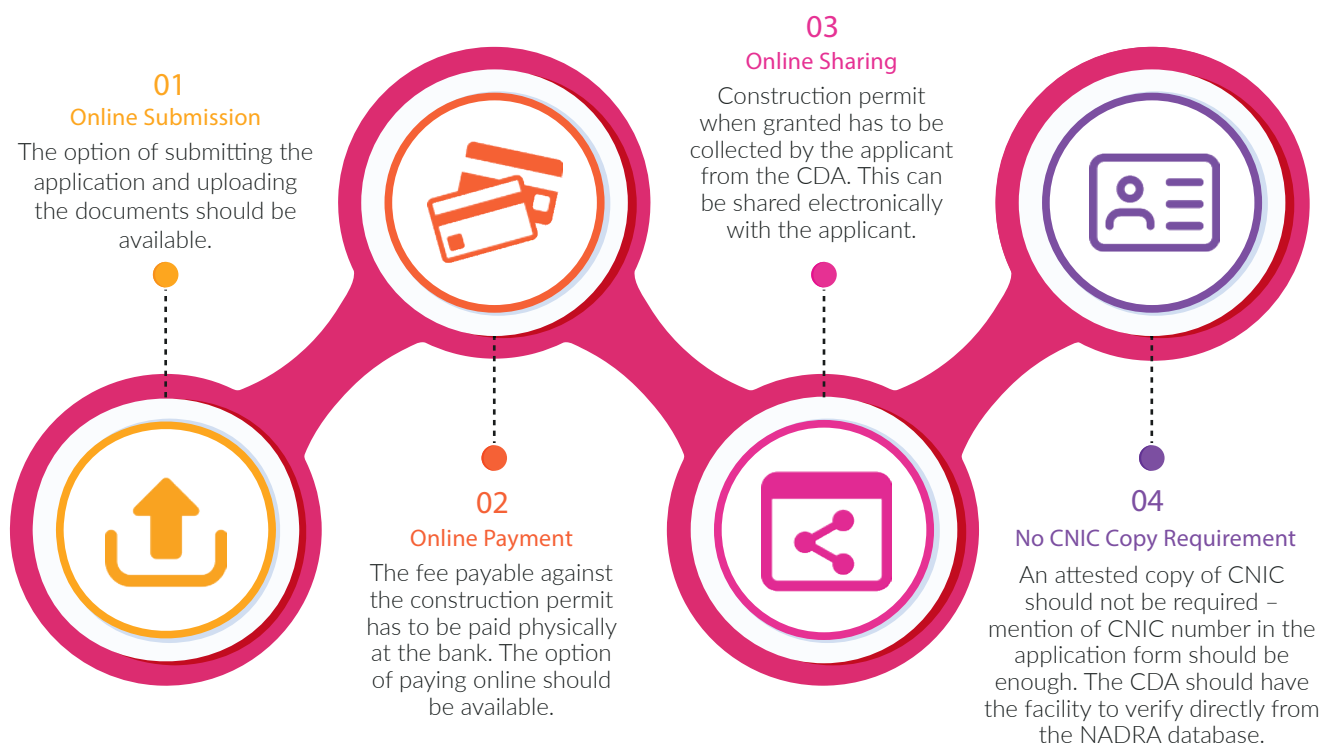
02



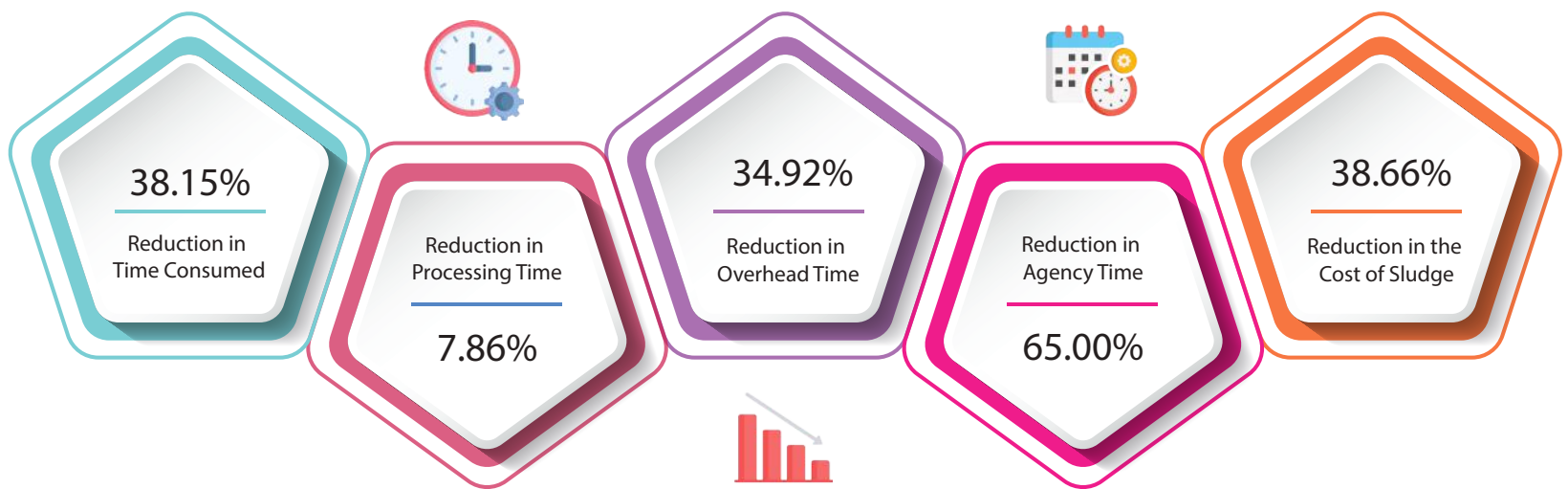
Obtaining NOC

2- DIGITIZATION

Submission of Application and Documents to CDA



Cutting the Sludge: Reduction in Time Consumed and Cost Based on the Recommendations



Color Legend

Table-1.2 (A): Steps and Time Consumed in Obtaining Residential Construction Permit CDA

No	Steps	Description	Time (Minutes)				Overhead Time (Minutes)	Agency Time
			Travel	Waiting	Transaction/Process	Total		
1	Gather Information	Visit CDA	45			45	480 (1 day)	
		Meet official to gather information	30	30	30	60		
		Finish the day	45			45		
		Copy of Allotment Letter	45	10	5	60		
		Visit-Architect	45			45		
		Brainstorm		30	360	390		
		Finish the day	45			45		

2	Prepare Documents	Building Plan (6 Copies)	Visit-2-Architect for plan	45			45	14400 (30 days)	
			Hire-Architect			180	180		
			Finish the day	45			45		
			Design by Architect			14400	14400		
			Visit-3	45			45		
			Collect building plan		20	30	50		
			Finish the day	45			45		
		Attested CNIC Copy	CNIC copy	45	5	10	60	240 (1/2 day)	
			Attestation	120	45	5	170		
		Indemnity Bond	Collect stamp paper	10	20	10	40	1680 (3.5 days)	
			Print affidavit		10	10	20		
			Witnesses attestation	90	15	480	585		
			Notarize affidavit		10	10	20		
		Forms signed by architect, engineer, and owner	Visit CDA	45			45		
			Fill the form			30	30		
			Finish the day	45			45		
		Pay order	Visit National Bank	45			45	1680 (3.5 days)	
			Ask for pay order		60	15	75		
			Finish the day	45			45		
		Soundness and Stability Certificate	Visit Engineer	45			45	1440 (3 days)	
			Get certificate		30	240	270		
Finish the day	45				45				
NOC from sewerage division	Visit NCI	45			45	4800 (10 days)	3360 (7 days)		
	Apply for NOC		60	240	300				
	Finish the day	45			45				
	Visit-2 NCI	45			45				
	Collect NOC (after 7 days)		30	60	90				
	Finish the day	45			45				
3	Visit-2 CDA	Visit CDA	45			45	640 (1.3 days)		
		Submit Application for construction permit		30	90	120			
		Finish the day	45			45			
4	Account Section Clearance	Visit-3 CDA	45			45	14400 (30 days)	12000 (25 days)	
		Pursue Application		30	60	90			
		Finish the day	45			45			
		Visit-4 CDA	45			45			
		NOC from EM1DTE		30		30			
		Finish the day	45			45			
5	Building Inspector	Visit-5 CDA	45			45	4800 (10 days)	1440 (3 days)	
		Pursue the Application so that it may forwarded to building inspector		30		30			
		Finish the day	45			45			
6	Building Inspector's visit				60	60	1440 (3 days)		
7	Report Submission by Field-Officer						28800 (60 days)	3360 (7 days)	
8	Visit-6 CDA	Visit CDA	45			45	14400 (30 days)	7200 (15 days)	
		Collect approval certificate		30	45	75			
		Finish the day	45			45			
Total Time (Days)							34	180	60
Aggregate Time (Months)							9.13		

Table-1.2 (B): Monetary and Opportunity Cost in Obtaining Residential Construction Permit CDA

No	Steps	Description	Cost			Opportunity Cost	
			Travel	Fee	Total		
1	Gather Information	Visit CDA	500		500	151.1	
		Meet official to gather information			0	202.0	
		Finish the day	500		500	151.5	
2	Prepare Documents	Copy of Allotment Letter	500		500	202.0	
		Building Plan (6 Copies)	Visit-Architect	500		500	151.5
			Brainstorm			0	1313.0
			Finish the day			0	151.5
			Visit-2-Architect for plan	500		500	151.5
			Hire-Architect		100000	100000	606.0
			Finish the day	500		500	151.5
			Design by Architect			0	48480
			Visit-3	500		500	151.5
			Collect building plan			0	168.3
			Finish the day	500		500	151.5
		Attested CNIC Copy	CNIC copy	500	10	500	202.0
			Attestation			0	572.3
		Indemnity Bond	Collect stamp paper	500	150	650	134.7
			Print affidavit		100	100	67.3
			Witnesses attestation	1000		1000	0.0
			Notarize affidavit		200	200	67.3
		Forms signed by architect, engineer, and owner	Visit 2: CDA	500		500	151.5
			Fill the form			0	101.0
			Finish the day	500		500	151.5
		Pay order	Visit National Bank	500		500	151.5
			Ask for pay order		8500	8500	0.0
			Finish the day	500		500	151.5
	Soundness and Stability Certificate	Visit Engineer	500		500	151.5	
		Get certificate		5000	5000	0.0	
		Finish the day	500		500	0.0	
	NOC from sewerage division	Visit NCI Lal Masjid	500		500	0.0	
		Apply for NOC			0	0.0	
		Finish the day	500		500	0.0	
		Visit-2 NCI	500		500	0.0	
		Collect NOC (after 7 days)			0	0.0	
Finish the day	500		500	0.0			
3	Visit-3 CDA	Visit CDA	500		500	151.5	
		Submit Application for construction permit			0	404.0	
		Finish the day	500		500	151.5	

4	Account Section Clearance	Visit-4 CDA	500	500	0.0
		Pursue Application		0	0.0
		Finish the day	500	500	0.0
		Visit-5 CDA	500	500	0.0
		NOC from EM1DTE		0	0.0
		Finish the day	500	500	0.0
5	Building Inspector	Visit-6 CDA	500	500	0.0
		Pursue the Application so that it may forwarded to building inspector		0	0.0
		Finish the day	500	500	0.0
6	Building Inspector's visit			0	202.0
7	Report Submission by Field-Officer			0	0.0
8	Visit-7 CDA	Travel to CDA	500	500	151.5
		Collect approval certificate		0	252.5
		Finish the day	500	500	151.5
Total Cost					185,510

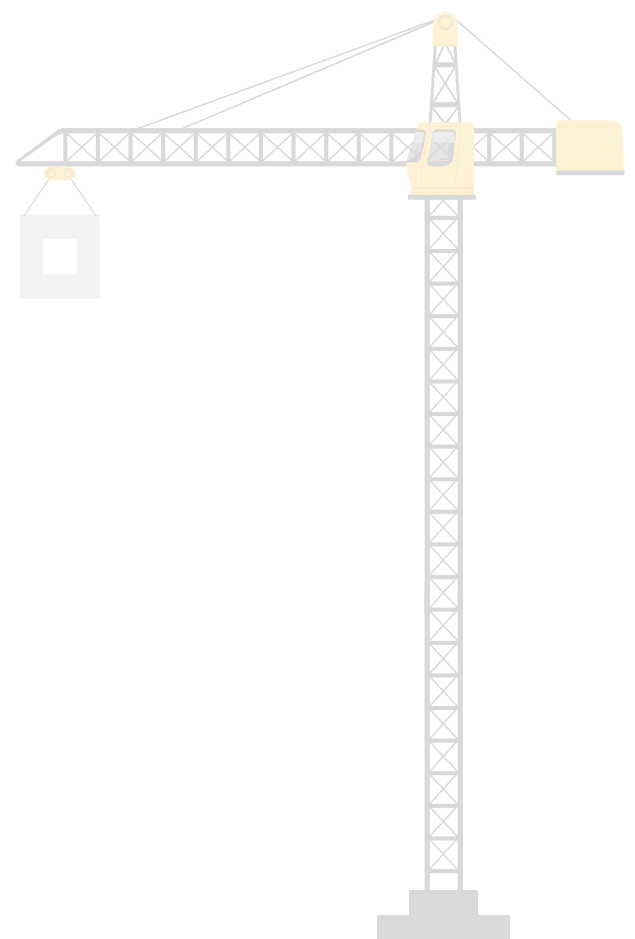


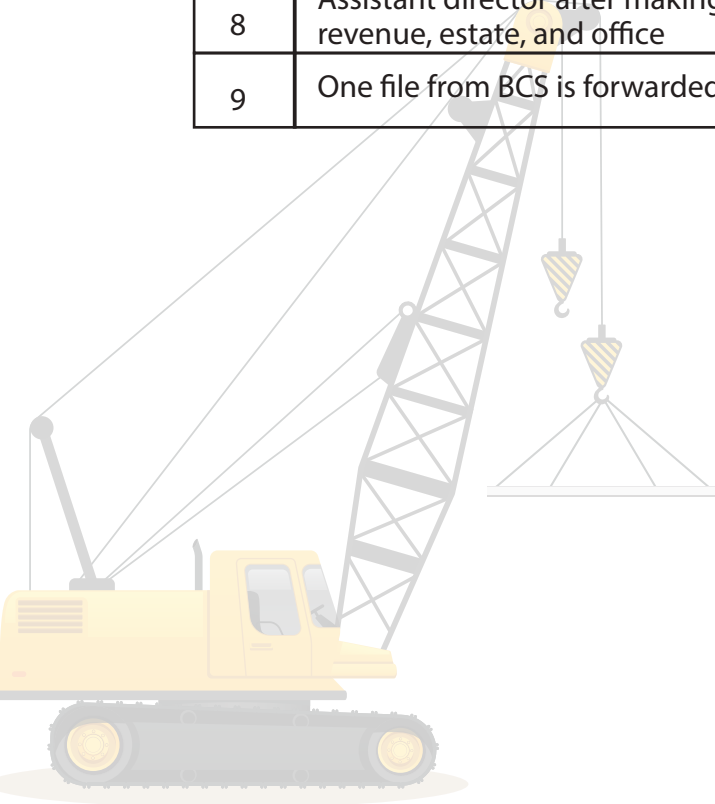
Table-1.2 (C): Stress Level in Obtaining Residential Construction Permit from CDA

No	Steps	Description	Stress Level	Stress %	
1	Gather Information	Visit CDA	2	1.2	
		Meet official to gather information	4	3.3	
		Finish the day	2	1.2	
2	Prepare Documents	Copy of Allotment Letter	2	1.7	
		Building Plan (6 Copies)	Visit-Architect	2	1.2
			Brainstorm	5	26.8
			Finish the day	2	1.2
			Visit-2-Architect for plan	2	1.2
			Hire-Architect	5	12.4
			Finish the day	2	1.2
			Design by Architect	1	0.0
			Visit-3	2	1.2
			Collect building plan	5	3.4
			Finish the day	2	1.2
		Attested CNIC Copy	CNIC copy	1	0.8
			Attestation	4	9.4
		Indemnity Bond	Collect stamp paper	2	1.1
			Print affidavit	4	1.1
			Witnesses attestation	5	0.0
			Notarize affidavit	5	1.4
		Forms signed by architect, engineer, and owner	Visit CDA	2	1.2
			Fill the form	5	2.1
			Finish the day	2	1.2
		Pay order	Visit National Bank	2	1.2
			Ask for pay order	4	0.0
			Finish the day	2	1.2
		Soundness and Stability Certificate	Visit Engineer	2	1.2
			Get certificate	5	0.0
			Finish the day	2	0.0
		NOC from sewerage division	Visit NCI Lal Masjid	2	0.0
Apply for NOC	5		0.0		
Finish the day	2		0.0		
Visit-2 NCI	2		0.0		
Collect NOC (after 7 days)	4		0.0		
Finish the day	1	0.0			
3	Visit-2 CDA	Visit CDA	2	1.2	
		Application Submission at One Window	5	8.3	
		Finish the day	2	1.2	
4	Account Section Clearance	Visit-3 CDA	2	0.0	
		Pursue Application	5	0.0	
		Finish the day	2	0.0	
		Visit-4 CDA	2	0.0	
		NOC from EM1DTE to One Window	5	0.0	
		Finish the day	2	0.0	

5	Building Inspector	Visit-5 CDA	2	4.1
		Pursue the Application so that it may forwarded to building inspector	5	0.0
		Finish the day	2	0.0
6	Building Inspector's visit		5	0.0
7	Report Submission by Field Officer		5	0.0
8	Visit-6 CDA	Travel to CDA	2	1.2
		Collect approval certificate	3	3.1
		Finish the day	2	1.2

Table-1.2 (D): Steps Involved in Processing Residential Construction Permit from CDA (as per official claim)

No	Step	Time (Days)
1	Submitting file at one window along with the pay order for the fee payable.	1
2	Pay order moved to estate management	3
3	Assistant director forwards the file to concerned deputy director	3
4	Concerned deputy director forwards the file to steno/typewriter	3
5	Steno typist writes the approval letter	1
6	Steno sends the letter to deputy director	1
7	Deputy director sends the letter to assistant director	3
8	Assistant director after making the file and approval sends one copy of file each to revenue, estate, and office	1
9	One file from BCS is forwarded to one window along with approved letter and drawings	1





1.3

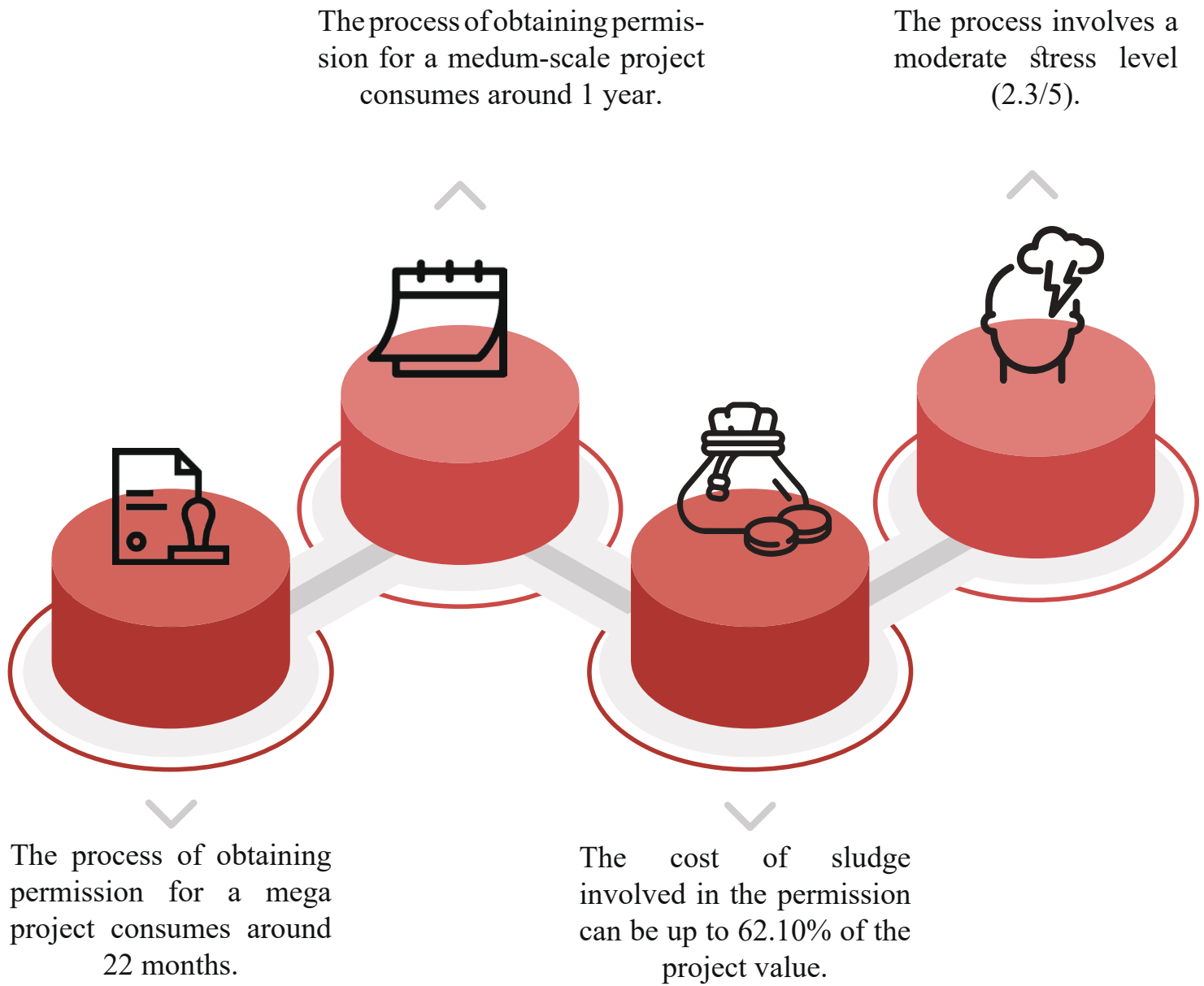
OBTAINING PERMISSION FOR A PROJECT FROM THE ENVIRONMENT PROTECTION AGENCY (EPA), ISLAMABAD

As per the clause 12 of the Pakistan Environmental Protection Act (1997), no applicant of a project shall commence construction or operation unless he has filed with the Federal Agency an initial environmental examination whether the project is likely to cause an adverse environmental effect, an environmental impact assessment, and has obtained approval for the construction from the EPA.

THE PROCESS OF OBTAINING CONSTRUCTION PERMISSION FROM EPA



GETTING NOC FOR CONSTRUCTION FROM THE (EPA)



The sludge involved in obtaining permission for a residential construction costs the economy around 12 % of GDP.

CHART-1.3 (A): APPROVAL FOR MEGA-PROJECTS FROM ENVIRONMENTAL PROTECTION AGENCY

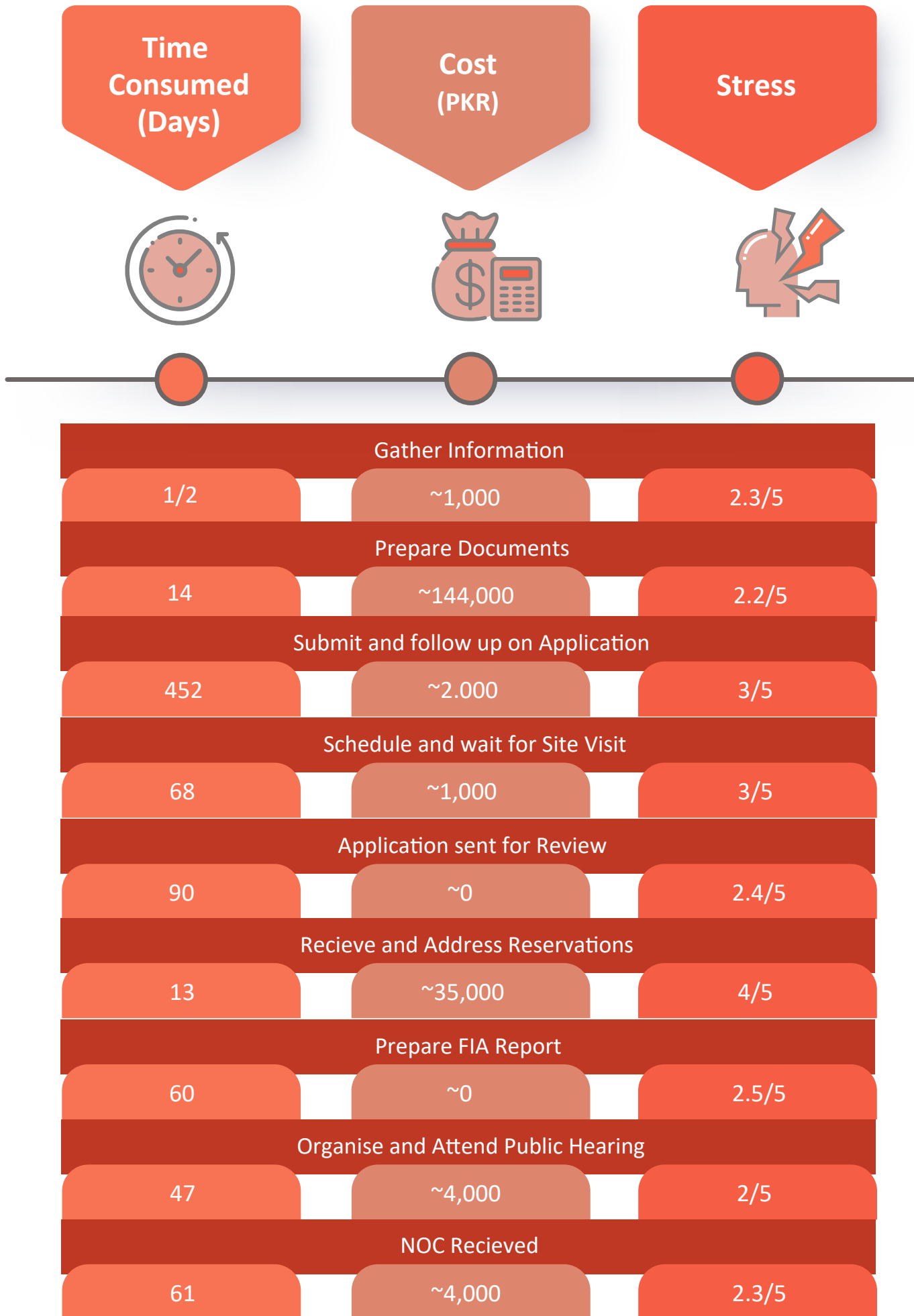
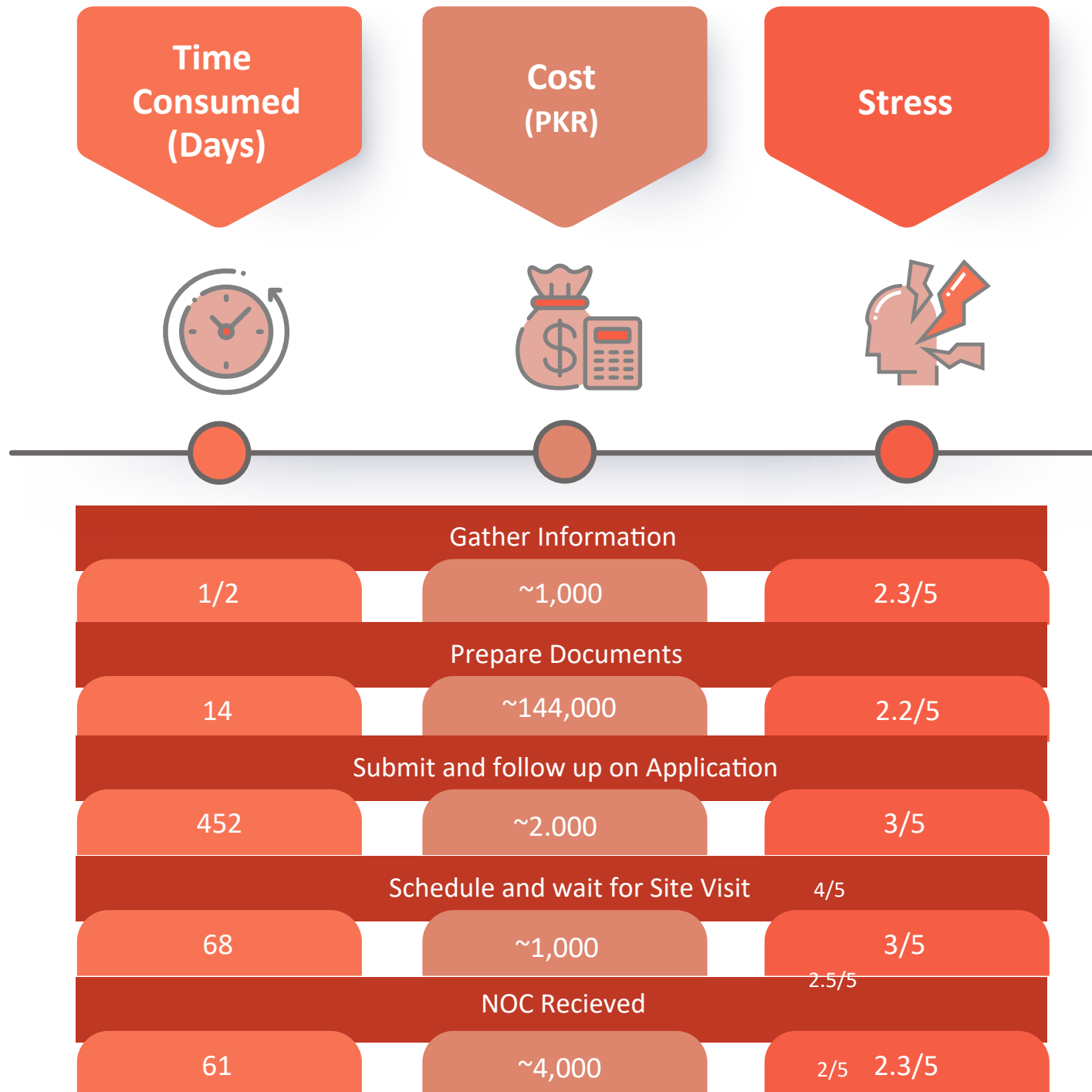


CHART-1.3 (B) : APPROVAL FOR A MEDIUM SIZE PROJECT FROM THE ENVIRONMENTAL PROTECTION AGENCY



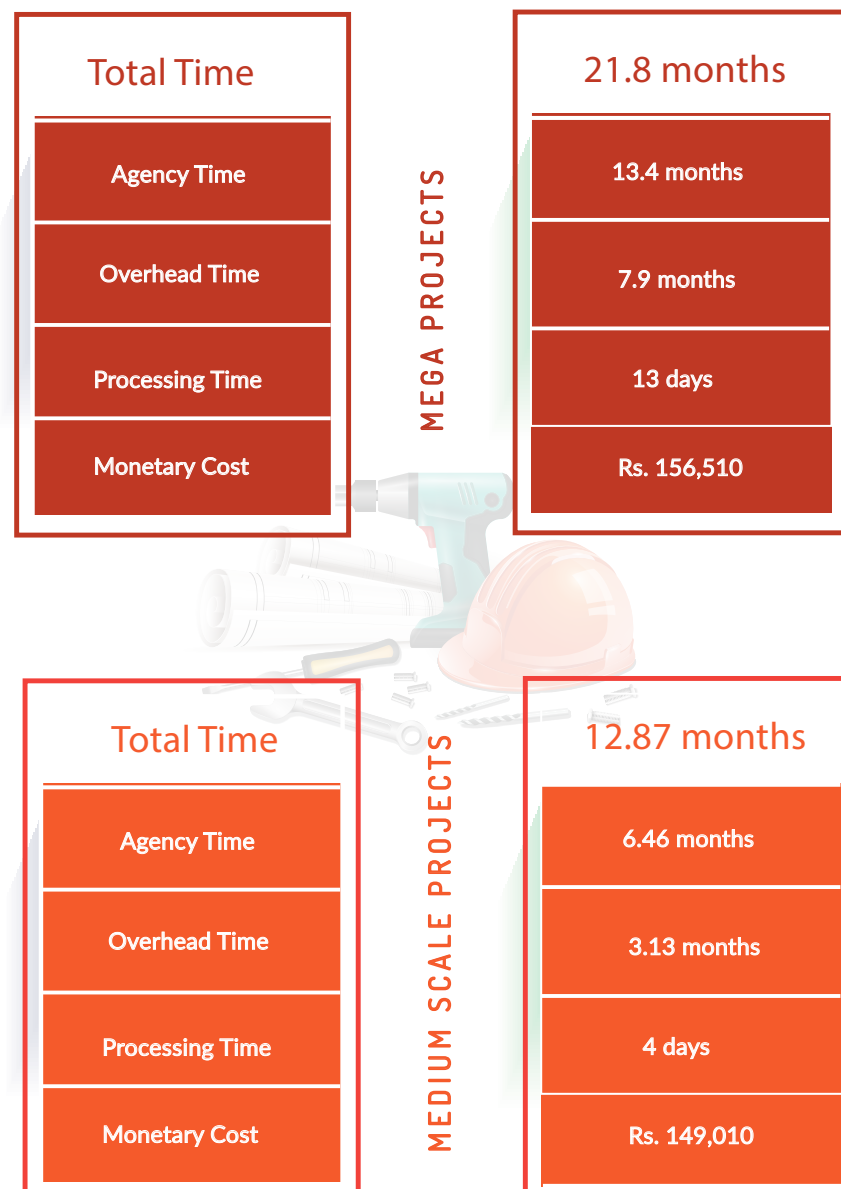
SOURCES OF THE SLUDGE

The sludge in seeking permission for a high-rise construction from EPA comes from the following sources:

Scrutiny of application at the EPA:	90 days
Follow up of application:	180 days
Wait for site visit by EPA	60 days
Application forwarded for review to stakeholders	90 days
Environment impact analysis	60 days
Review (concerns of general public)	60 days
Issuance of NOC	30 days

The primary source of sludge comes from the human resource capacity of the EPA – EPA has a total staff of 16, which includes only 05 inspectors who must inspect the property/site. On average the EPA receives 12 cases per month for issuance of NOC. The EPA having a total staff strength of 16 does not have the capacity to process these cases quickly. The shortage of staff causes most of the delays. The rather small budget which is allocated to EPA and the administrative status of the EPA (under which ministry it falls) could be one of the reason for the capacity constraints of the EPA and the consequent delays. Secondly, huge financial stakes are involved in the mega projects. Anecdotal evidence suggests that the desire to seek rents could induce bureaucratic delays which tend to get relaxed as rents are offered by the applicants.

The EPA seeks opinion of several concerned agencies and environmental experts including the academia. The EPA does not pay any remuneration to these experts and ask them to offer their opinion pro-bono. Given this situation, the experts often take a very long time in responding to the request of the EPA, for expert opinion, and that too after considerable persuasion. EPA's small budget is at the root of this situation.



Agency Time

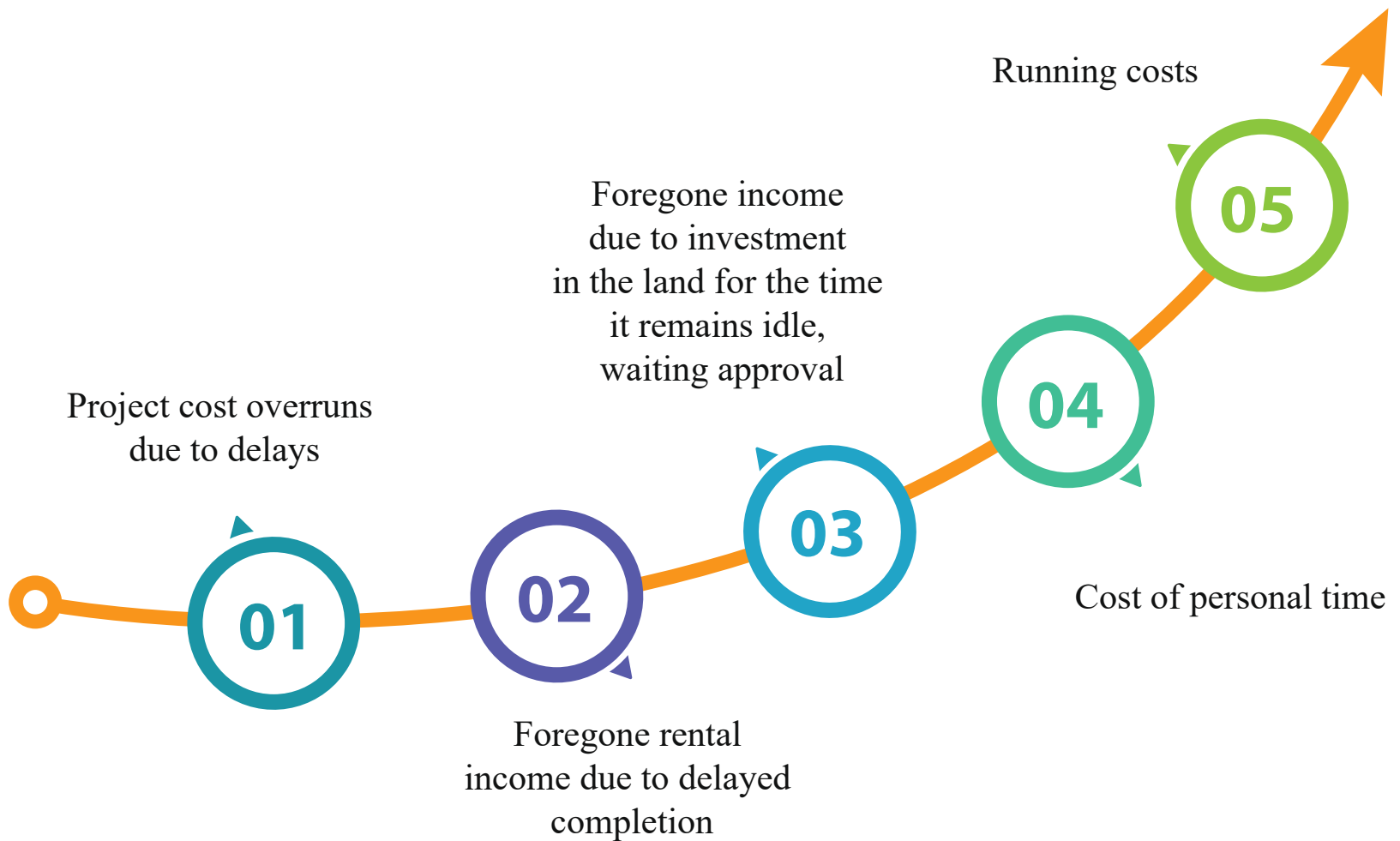
The time consumed by the department/agency concerned in processing an activity.

Overhead Time

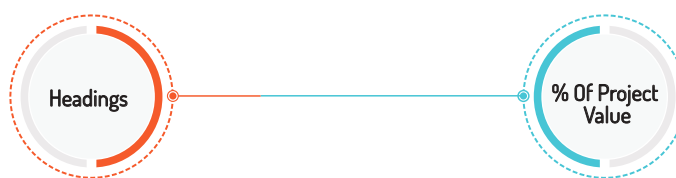
Part of the day lost due to being involved in this activity.

COST OF THE SLUDGE

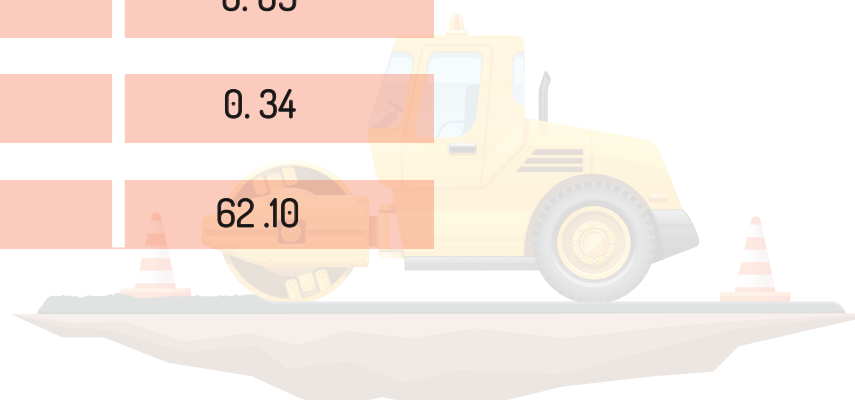
To measure the indirect cost of the sludge, we consider the following aspects:



These aspects of cost overruns that we have captured seek to indicate the pervasiveness of the sludge burden.

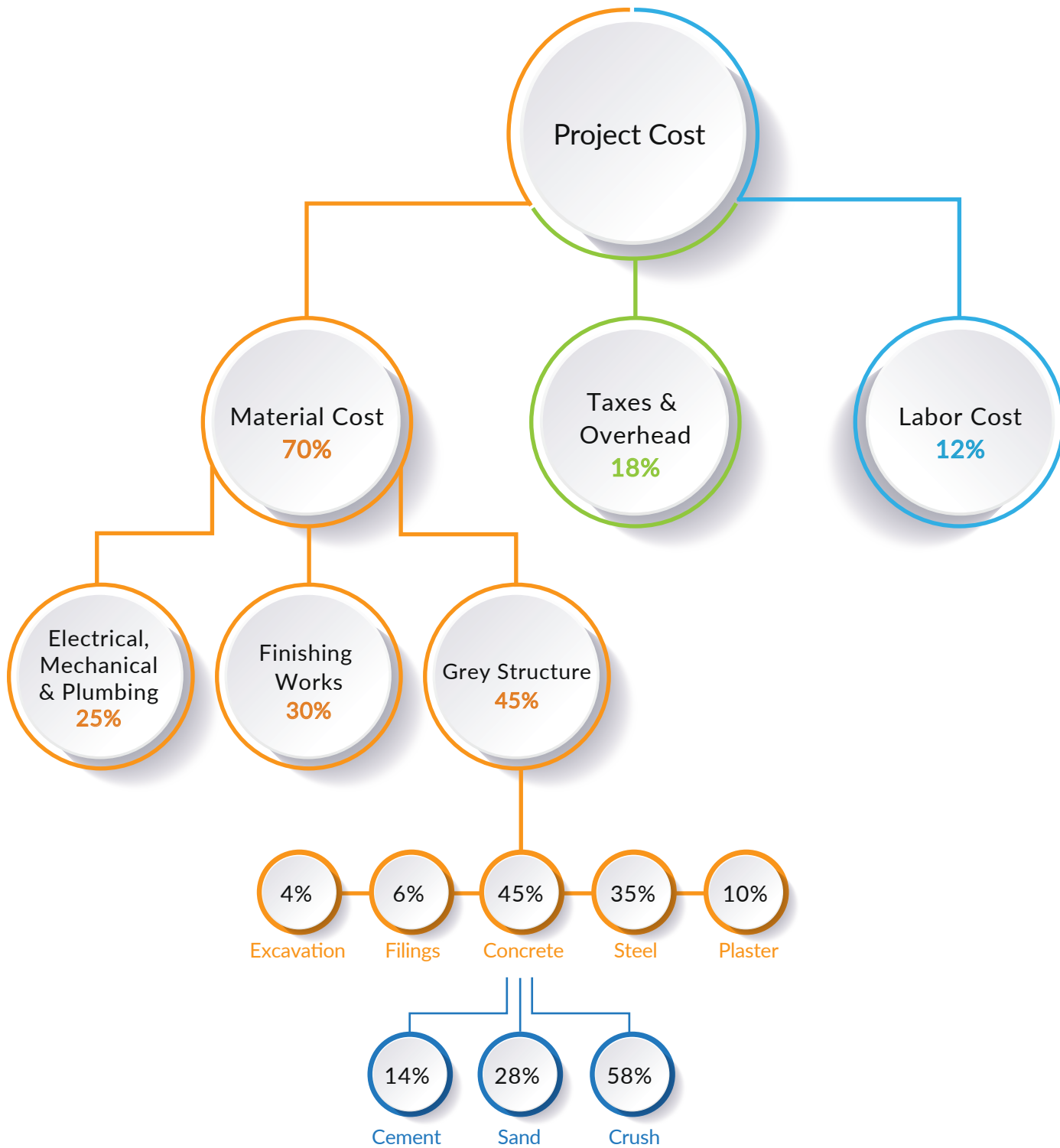


Headings	% Of Project Value
Project Construction Cost Overrun	12
Foregone Rental Value	35.26
Foregone Income due to Investment in the Plot	14.41
Personal Time Cost	0.09
Project Running Cost	0.34
Total	62.10



01 Project Cost Overruns Due to Delays

The delay in obtaining permission for a project from environmental protection agency causes overruns in the estimated project cost.

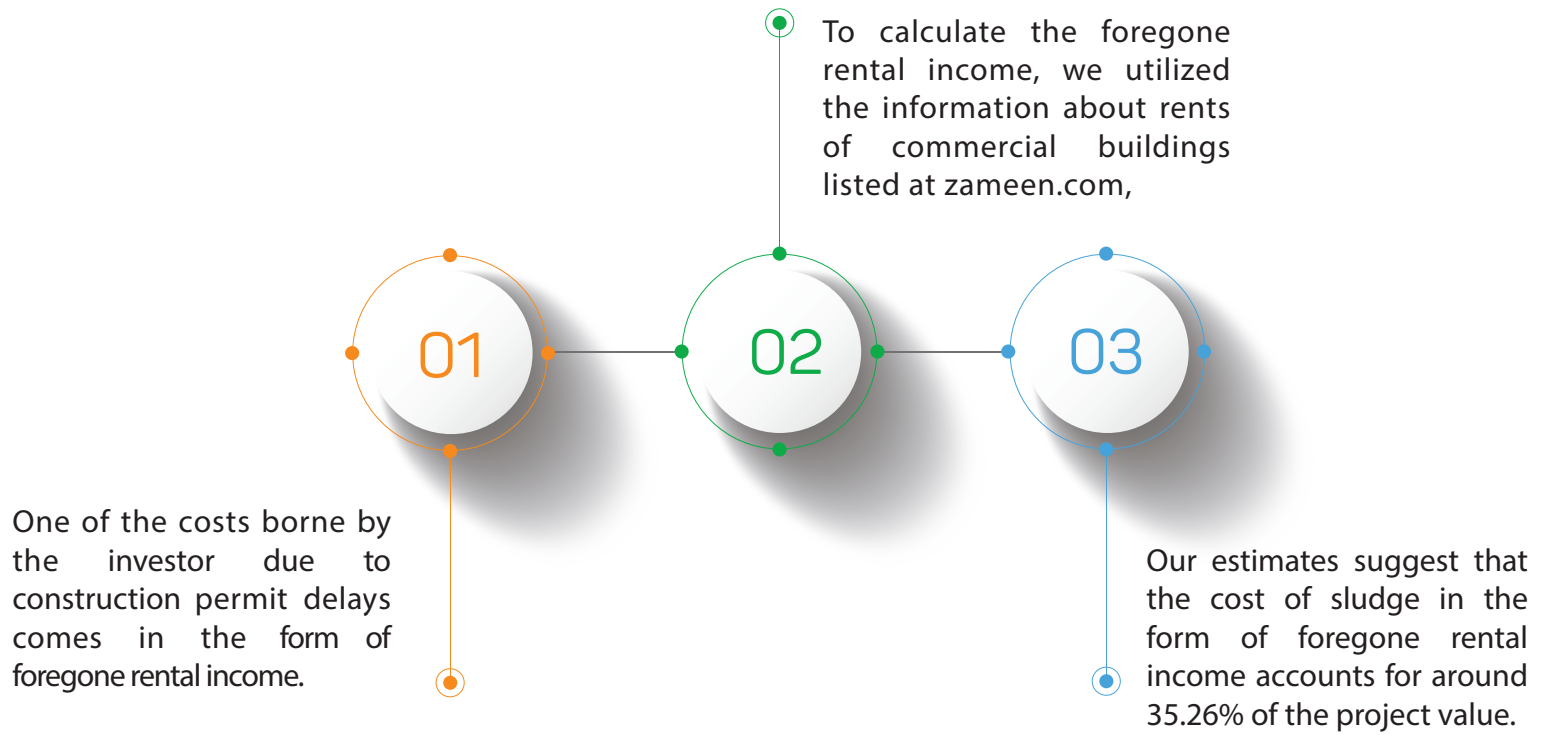


A component-wise analysis of the project cost from 2015 to 2020 indicates that the project cost overruns by 12% of the total project value due to delay of more than 2 years in obtaining permissions.

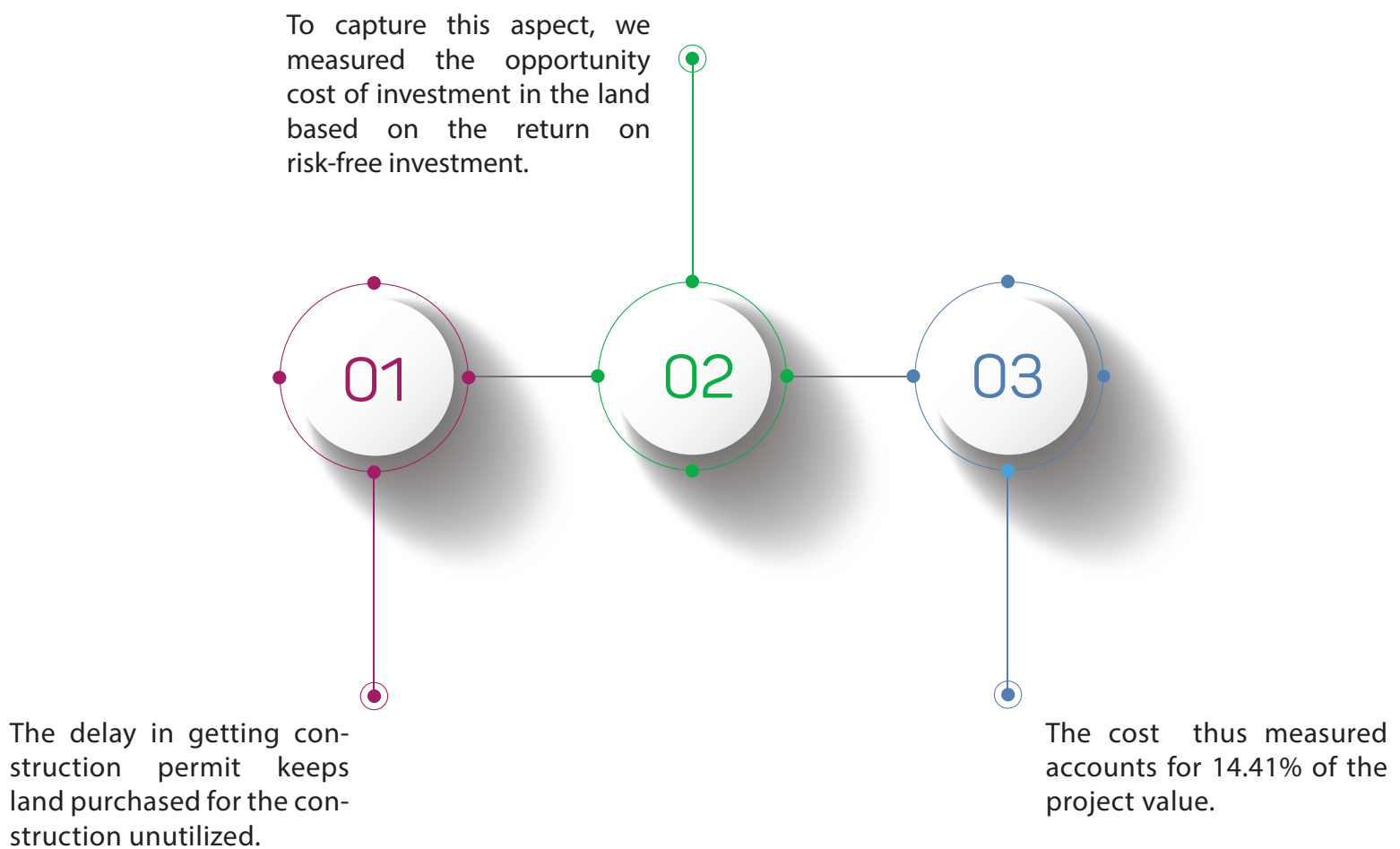
Increase in Project Cost Due to Increase in Prices

Cost Component	Weight (% Project Cost)	% Change (2015-2017)	Impact on the Project Cost (% of Project value)
Excavation	1.26	14.28	0.84
Filing	1.89	20.27	1.42
Steel	11.03	20.64	16.54
Plaster	3.15	50.67	3.15
Cement	1.98	2.26	1.99
Sand	3.97	14.75	5.95
Crush	8.22	3.20	3.29
Finishing Works	21.00	11.42	7.88
Electrical, Mechanical, and Plumbing	17.50	11.69	3.50
Skilled Labor	6.24	15.36	1.56
Unskilled Labore	4.08	25.00	1.53
Project Management	1.68	13.63	0.42
Taxes, Profit and Overhead	18.00	0.00	0.00
Estimated Project Cost			100.00
Realized project Cost Due to Delays in Getting Permission			112.00

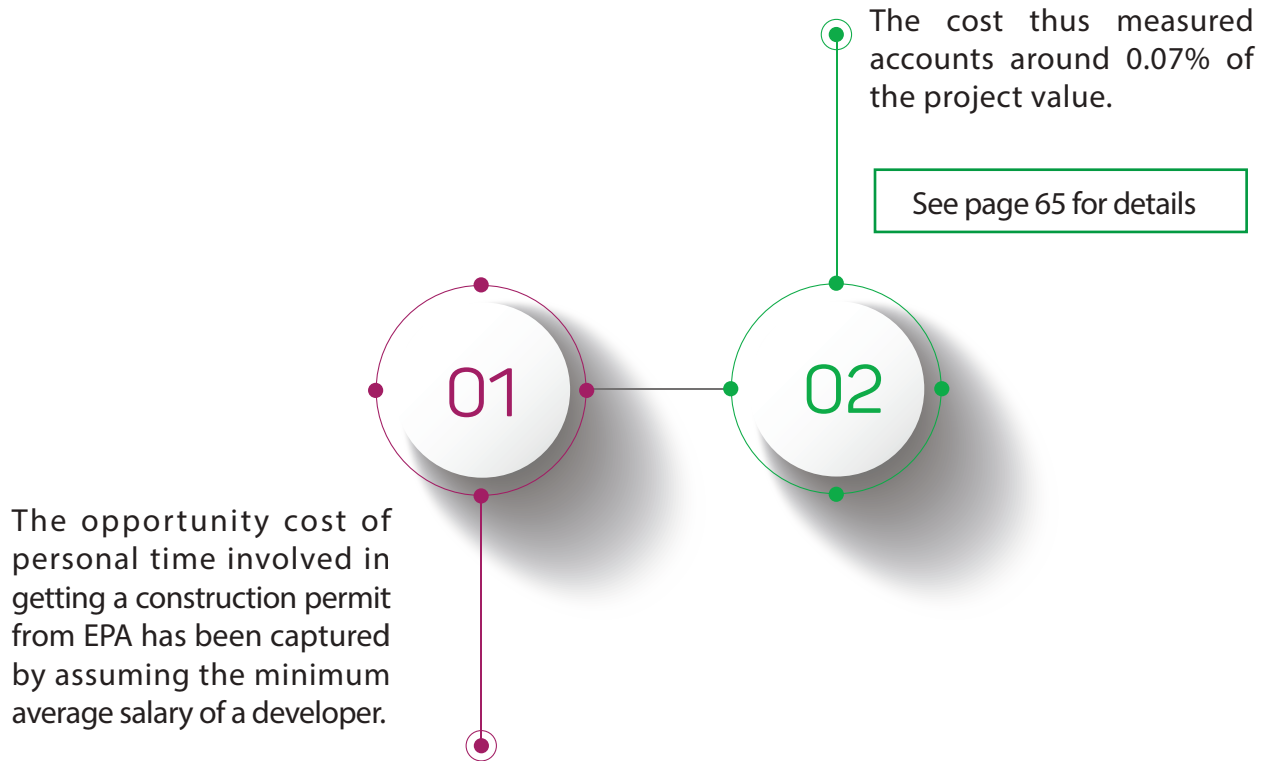
02 Foregone Rental Income



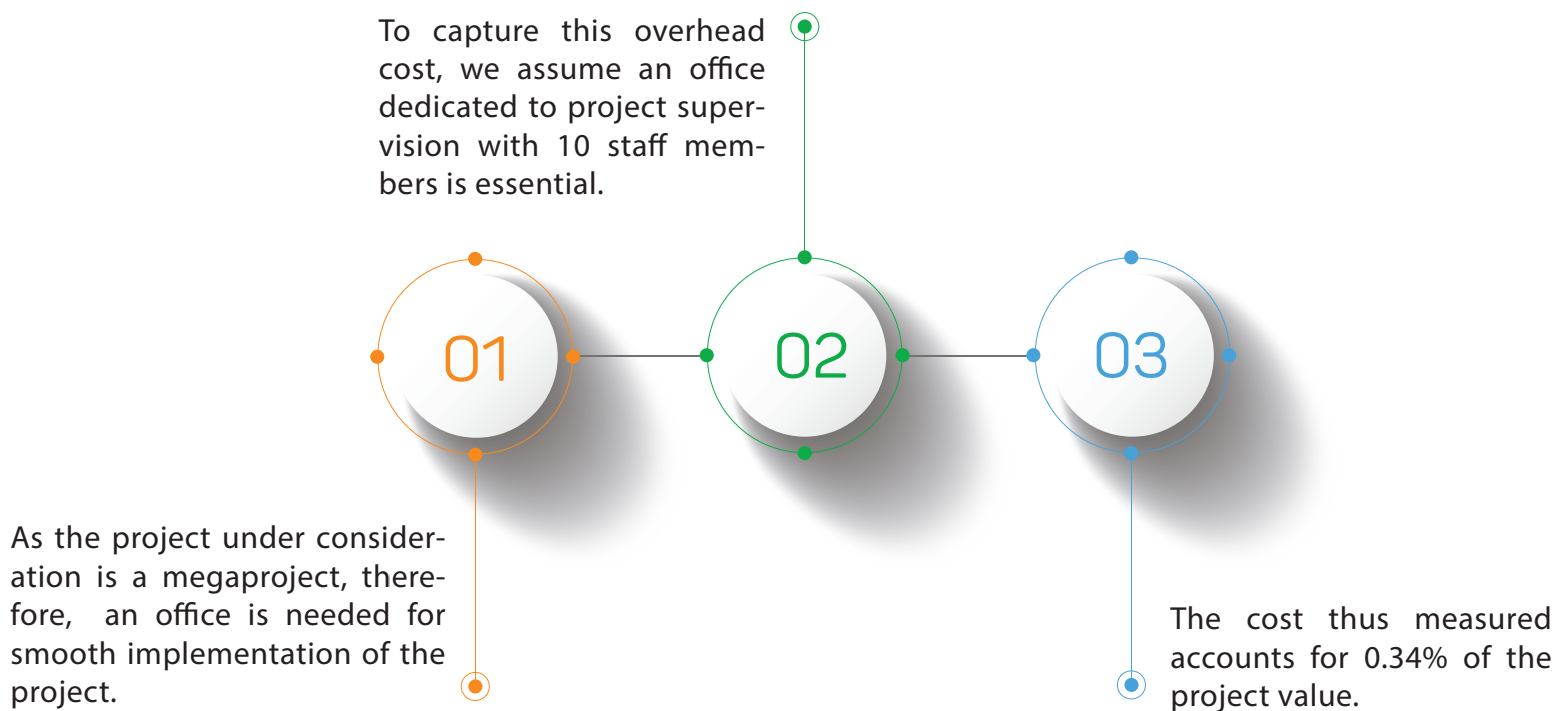
03 Foregone Income Due to Investment in a Piece of Land



04 Cost of Personal Time

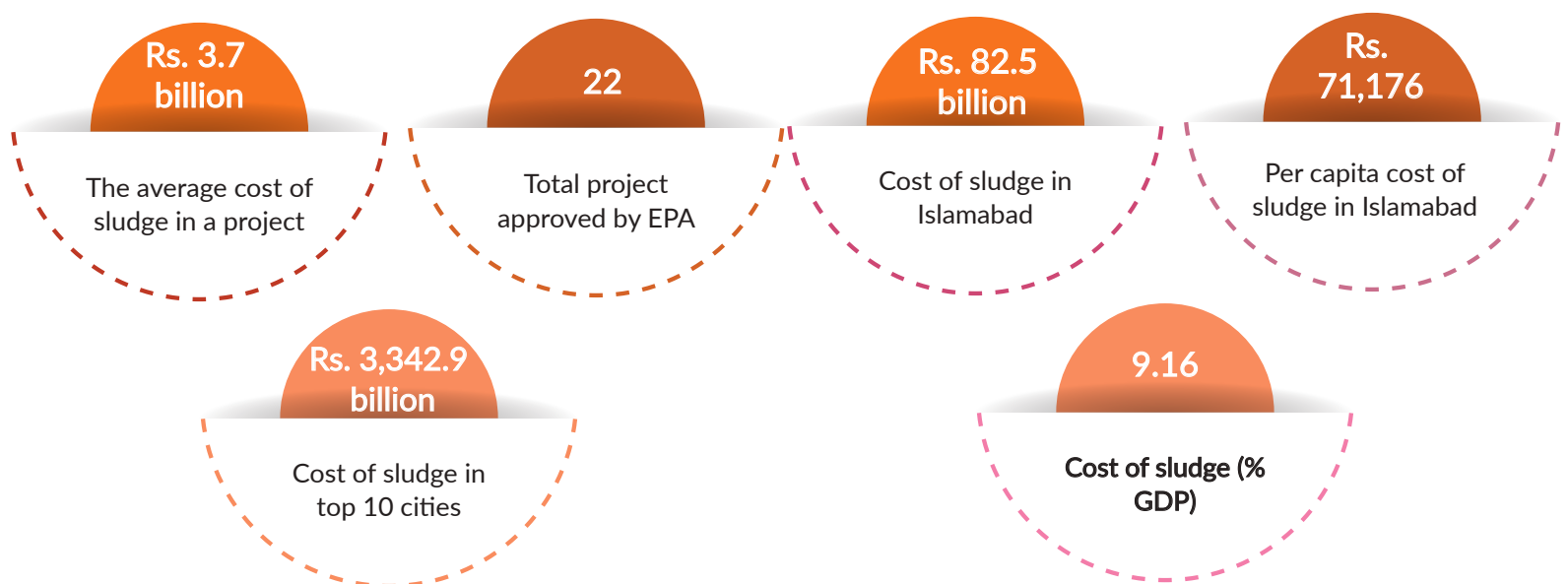


05 Running Cost



COST OF THE SLUDGE IN TERMS OF GDP

To assess the impact of the cost of regulation on the economy, we translate the cost of sludge in obtaining permission from EPA (62.1% of project value) in terms of GDP. The task is performed based on the following information: (i) average cost of sludge, (ii) average cost of the projects that have been approved, (iii) number of projects approved by EPA, (iv) urban population of top 10 cities of Pakistan. The average cost of projects has been worked out by exploring the information about the projects that have been approved by the authority during last year. The average cost of the project is around Rs. 6 billion.



CUTTING THE SLUDGE

01

Cutting sludge requires that the EPA should be adequately staffed and financed. Once these primary issues are sorted out other bureaucratic constraints will have to be addressed.

02

Replacing building-wise permission with area-wise regulations will cut the sludge enormously.

Table-1.3 (A) : Approval for Mega-projects from Environmental Protection Agency

No	Steps	Description	Times Minutes)				Overhead	Agency	
			Travel	Waiting	Transaction	Total			
1	Gather Information	Visit Environmental Protection Agency	45			45	240 (1/2 day)		
		Gather information		30	30	60			
		Finish the day	45			45			
2	Prepare Documents	Project Design Copies	Visit Architect	45			45	480 (1 day)	3360 (7 days)
			Receive building design		30	30	60		
			Visit Photocopier	45			45		
			10 Copies of Project Design		10	30	40		
			Prepare soft copy	45	5	60	110		
			Finish the day	45			45		
		CNIC Copy			5	10	15	1440 (3 days)	
		Property Information Report (PIR)	Visit CDA	45			45		
			Apply for PIR		30	30	60		
			Finish the day	45			45		
			Visit -2 CDA	45			45		
			Inquire about application		30	15	45		
			Finish the day	45			45		
			Visit -3 CDA	45			45		
			Get PIR		30	15	45		
		Finish the Day	45			45			
		EPA Application Form	Fill schedule 4 perfoma			60	60	240 (1/2 day)	
		Fee submission	Visit Bank	45			45		
			Fill form for the Pay-order		60	15	75		
			Get Pay-order		20	20	40		
			Finish the day	45			45		
3	Application Submission	Visi -2 EPA	45			45	480 (1 day)		
		Submit application		30	30	60			
		Finish the day	45			45			
4	Application Scrutiny						43200 (90 days)		
5	Application Follow-up	Visit -3 EPA	45			45	86400 (180 days)		
		Inquire application status		30	30	60			
		Submit Additional Documents		30	30	60			
		Finish the Day	45			45			
6	Wait for Site Visit					0	28800 (60 days)		
7	Site Visit		90	60	120	270	480 (1 day)		
8	Report submission by Inspector						3360 (7 days)		

9	Application Forward for Review (Academia, CDA Planning, MoPD&SI, Review Committee, Environmental Experts)							43200 (90 days)
10	Receive Comments	Visit -4 EPA	45			45	480 (1 day)	
		Receive Comments		30	60	90		
		Finish the Day	45			45		
11	Address Objections	Visit Architect	45			45	960 (2 days)	
		Address concerns		60	3360	3420		
		Finish the day	45			45		
		Visit Architect	45			45		
		Get Revised Plan		5	15	20		
12	Documents Submission	Visit -5 E PA	45			45	480 (1 day)	
		Submit revised documents		30	30	60		
		Finish the Day	45			45		
13	Environmental Impact Analysis (EIA) Report							28800 (60 days)
14	Proclamation	Visit Newspaper Office	45			45	21600 (45 days)	
		Ask for Proclamation	45			45		
		Finish the Day		5	20	25		
15	Public Hearing	Visit -6 EPA	45			45	480 (1 day)	
		Public Hearing		60	240	300		
		Finish the Day	45			45		
16	Review by EPA					0		28800 (60 days)
17	Receive NOC	Visit -7 EPA	45			45	480 (1 day)	14400 (30 days)
		Receive NOC		30	30	60		
		Finish the Day	45			45		
Total Time (Days)						13	238	404
Aggregate Time (Months)							21.8	



Table-1.3 (B) : Monetary Cost Involved in Getting Approval for Mega-projects from Environmental Protection Agency

No	Step	Description	Cost			
			Travel	Fee	Total	
1	Gather Information	Visit Environmental Protection Agency	500		500	
		Gather information				
		Finish the day	500		500	
2	Prepare Documents	Project Design Copies	Visit Architect	500		500
			Receive building design			
			Visit Photocopier	500	5000	5500
			10 Copies of Project Design	500		500
			Prepare soft copy		2000	2000
			Finish the day	500		500
		CNIC Copy			10	10
		Property Information Report (PIR)	Visit CDA	500		500
			Apply for PIR		1000	1000
			Finish the day	500		500
			Visit -2 CDA	500		500
			Inquire about application			
			Finish the day	500		500
			Visit -3 CDA	500		500
			Get PIR			
		Finish the Day	500		500	
		EPA Application Form	Fill schedule 4 perfoma			
		Fee submission	Visit Bank	500		500
			Fill form for the Pay-order		130000	130000
			Get Pay-order			
Finish the day	500			500		
3	Application Submission	Visi -2 EPA	500		500	
		Submit application				
		Finish the d ay	500		500	
4	Application Scrutiny					
5	Application Follow -up	Visit -3 EPA	500		500	
		Inquire application status				
		Submit Additional Documents				
		Finish the Day	500		500	

6	Wait for Site Visit				
7	Site Visit		1000		1000
8	Report submission by Inspector				
9	Application Forward for Review (Academia, CDA Planning, MoPD&SI, Review Committee, Environmental Experts)				
10	Receive Comments	Visit -4 EPA	500		500
		Receive Comments			
		Finish the Day	500		500
11	Address Objections	Visit Architect	500		500
		Address concerns			
		Finish the day	500		
		Visit Architect	500		500
		Get Revised Plan			
		Finish the day	500		500
12	Document Submission	Visit -5 EPA	500		500
		Submit revised documents			
		Finish the Day	500		500
13	Environmental Impact Analysis (EIA) Report				
14	Proclamation	Visit Newspaper Office	500		500
		Ask for Proclamation		2000	2000
		Finish the Day	500		500
15	Public Hearing	Visit -6 EPA	500		500
		Public Hearing			
		Finish the Day	500		500
16	Review by EPA				
17	Receive NOC	Visit -7 EPA	500		500
		Receive NOC			
		Finish the Day	500		500
Total Cost					156,510

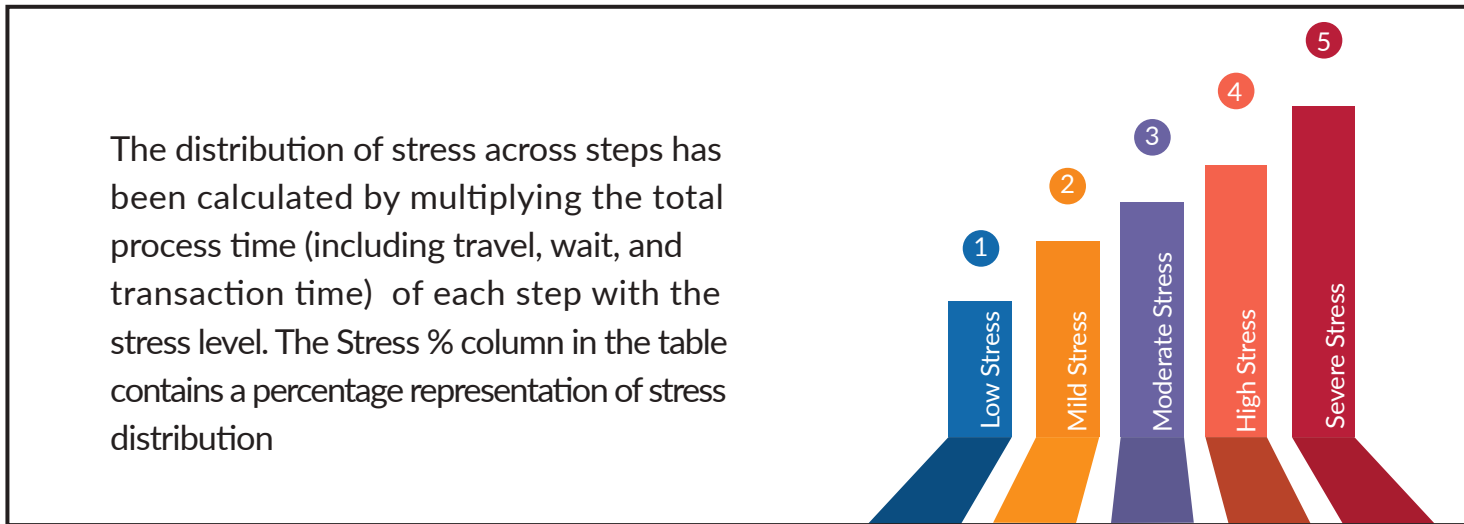


Table 1.3 (C) : Stress Involved in Obtaining Permission for Mega-projects from Environmental Protection Agency

No	Step	Description	Stress Level	Stress %
1	Gather Information	Visit Environmental Protection Agency	2	0.42
		Gather information	3	0.84
		Finish the day	2	0.42
2	Project Design Copies	Visit Architect	2	0.42
		Receive building design	3	0.84
		Visit Photocopier	2	0.42
		10 Copies of Project Design	2	0.37
		Prepare soft copy	3	1.54
		Finish the day	2	0.42
	CNIC Copy		2	0.14
	Property Information Report (PIR)	Visit CDA	2	0.42
		Apply for PIR	3	0.84
		Finish the day	2	0.42
		Visit -2 CDA	2	0.42
		Inquire about application	3	0.63
		Finish the day	2	0.42
		Visit -3 CDA	2	0.42
		Get PIR	2	0.42
	Finish the Day	2	0.42	
	EPA Application Form	Fill schedule 4 perfoma	2	0.56
	Fee submission	Visit Bank	2	0.42
		Fill form for the Pay-order	2	0.70
		Get Pay-order	3	0.56

		Finish the day	2	0.42
3	Application Submission	Visit -2 EPA	2	0.42
		Submit application	3	0.84
		Finish the day	2	0.42
4	Application Scrutiny		3	0.00
5	Application Follow-up	Visit -3 EPA	2	0.42
		Inquire application status	3	0.84
		Submit Additional Documents	3	0.84
		Finish the Day	2	0.42
6	Wait for Site Visit		3	0.00
7	Site Visit		3	3.78
8	Report submission by Inspector		3	0.00
9	Application Forward for Review (Academia, CDA Planning, MoPD&SI, Review Committee, Environmental Experts)		3	0.00
10	Receive Comments	Visit -4 EPA	2	0.42
		Receive Comments	3	1.68
		Finish the Day	2	0.42
11	Address Objections	Visit Architect	2	0.42
		Address concerns	4	0.84
		Finish the day	2	0.42
		Visit Architect	2	0.42
		Get Revised Plan	3	0.28
		Finish the day	2	0.42
12	Documents Submission	Visit -5 EPA	2	0.42
		Submit revised documents	2	0.56
		Finish the Day	2	0.42
13	Environmental Impact Analysis (EIA) Report		4	0.00
14	Proclamation	Visit Newspaper Office	2	0.42
		Ask for Proclamation	3	0.63
		Finish the Day	2	0.23
15	Public Hearing	Visit -6 EPA	2	0.42
		Public Hearing	4	5.60
		Finish the Day	2	0.42
16	Review by EPA		2	0.00
17	Receive NOC	Visit -7 EPA	2	0.42
		Receive NOC	3	0.84
		Finish the Day	2	0.42

Table-1.3 (D) : Time Consumed-Official Claim vs. Assessment from Respondents

No	Steps	Time	
		As per Official Claim	Assessed
1	Receive Documents	10 days	3 Months
2	Scrutiny of the Documents		
3	Ask applicant to submit missing Documents	120 days	6 Months
4	Receive additional Documents		2 Months
5	Schedule Site Visit		1 Month
6	Site Visit		1 Week
7	Assessment report by inspector		3 Months
8	Send the case for review		2 Months
9	Receive comments		1 Month
10	Send comments to applicant		1 Month
11	Receive revised case		2 Months
12	Board meeting with stakeholders		2 Months
13	Preparation of EIA report		1 Month
14	Wait for Proclamation		
15	Organize Public Hearing		
16	Receive submissions from relevant stakeholders		
17	Analyze the Submissions		
18	Issue NOC		
TOTAL		130 days	More than 2 years

Table-1.3 (E) : Time Consumed in Getting Approval for Medium Scale Projects from Environmental Protection Agency

No	Steps	Description	Times Minutes)				Overhead	Agency	
			Travel	Waiting	Transaction Total				
1	Gather Information	Visit Environmental Protection Agency	45			45	240 (1/2 day)		
		Gather information		30	30	60			
		Finish the day	45			45			
2	Prepare Documents	Project Design Copies	Visit Architect	45			45	480 (1 day)	
			Receive building design		30	30	60		
			Visit Photocopier	45			45		
			10 Copies of Project Design		10	30	40		
			Prepare soft copy	45	5	60	110		
			Finish the day	45			45		
		CNIC Copy			5	10	15		
		Property Information Report (PIR)	Visit CDA	45			45	1440 (3 days)	
			Apply for PIR		30	30	60		
			Finish the day	45			45		
			Visit-2 CDA	45			45		
			Inquire about application		30	15	45		
			Finish the day	45			45		
			Visit-3 CDA	45			45		
			Get PIR		30	15	45		
Finish the Day	45			45					

		EPA Application Form	Fill schedule 4 profoma			60	60	240 (1/2 day)		
		Fee submission	Visit Bank		45					45
			Fill form for the Pay-order			60	15			75
			Get Pay-order			20	20			40
			Finish the day		45					45
3	Application Submission	Visi -2 EPA					45	480 (1 day)		
		Submit application				30	30			60
		Finish the day				45				45
4	Application Scrutiny								43200 (90 days)	
5	Application Follow-up	Visit -3 EPA					45	86400 (180 days)		
		Inquire application status				30	30			60
		Submit Additional Documents				30	30			60
		Finish the Day			45					45
6	Wait for Site Visit								28800 (60 days)	
7	Site Visit				90	60	120	270	480 (1 day)	
8	Report submission by Inspector								3360 (7 days)	
9	Receive NOC	Visit -7 EPA					45	480 (1 day)	14400 (30 days)	
		Receive NOC				30	30			60
		Finish the Day			45					45
Total Time (Days)							4.1	188	194	
Aggregate Time (Months)								12.87		

Table-1.3 (F) : Monetary Cost Involved in Getting Approval for Medium Scale Projects from Environmental Protection Agency

No	Step	Description	Cost			
			Travel	Fee	Total	
1	Gather Information	Visit Environmental Protection Agency	500		500	
		Gather information				
		Finish the day	500		500	
2	Prepare Documents	Project Design Copies	Visit Architect	500		500
			Receive building design			
			Visit Photocopier	500	5000	5500
			10 Copies of Project Design	500		500
			Prepare soft copy		2000	2000
			Finish the day	500		500
		CNIC Copy			10	10
		Property Information Report (PIR)	Visit CDA	500		500
			Apply for PIR		1000	1000
			Finish the day	500		500
			Visit -2 CDA	500		500
			Inquire about application			
			Finish the day	500		500
			Visit -3 CDA	500		500
			Get PIR			
		Finish the Day	500		500	
		EPA Application Form	Fill schedule 4 profoma			
		Fee submission	Visit Bank	500		500
			Fill form for the Pay-order		130000	130000
			Get Pay-order			
Finish the day	500			500		
3	Application Submission	Visi -2 EPA	500		500	
		Submit application				
		Finish the day	500		500	
4	Application Scrutiny					

5	Application Follow -up	Visit -3 EPA	500		500
		Inquire application status			
		Submit Additional Documents			
		Finish the Day	500		500
6	Wait for Site Visit				
7	Site Visit		1000		1000
8	Report submission by Inspector				0
9	Receive NOC	Visit -7 EPA	500		500
		Receive NOC			
		Finish the Day	500		500
Total Cost					149,010

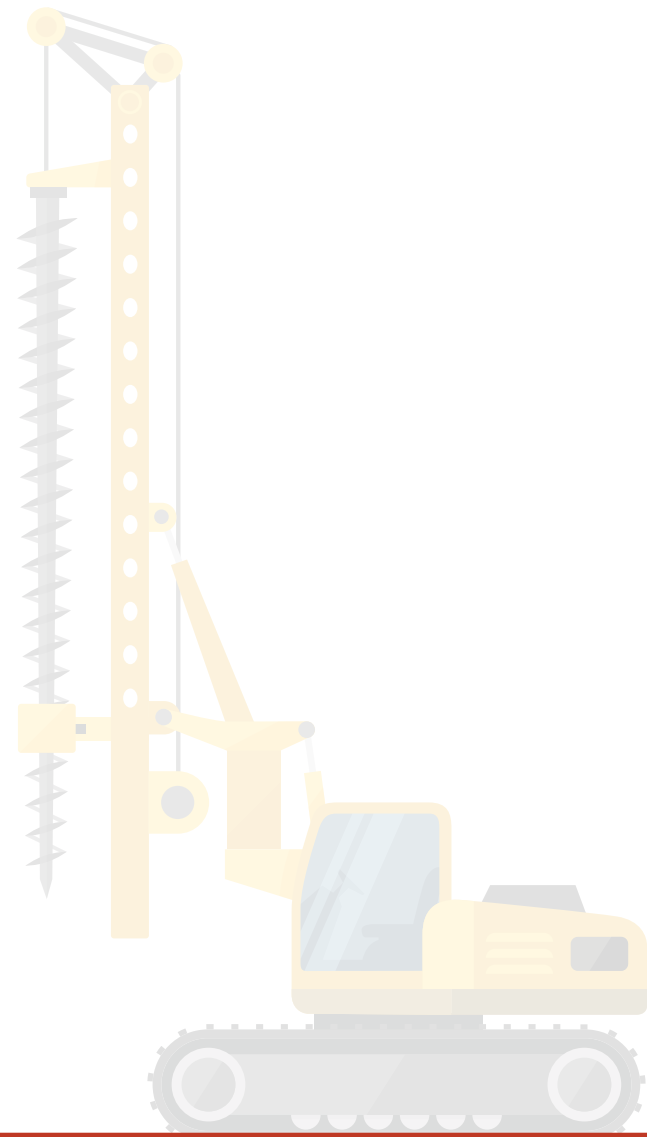
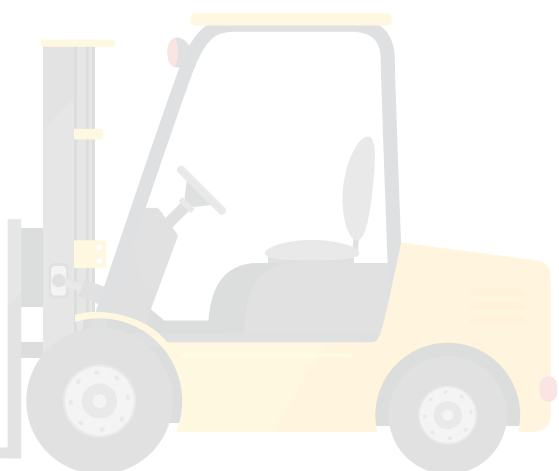
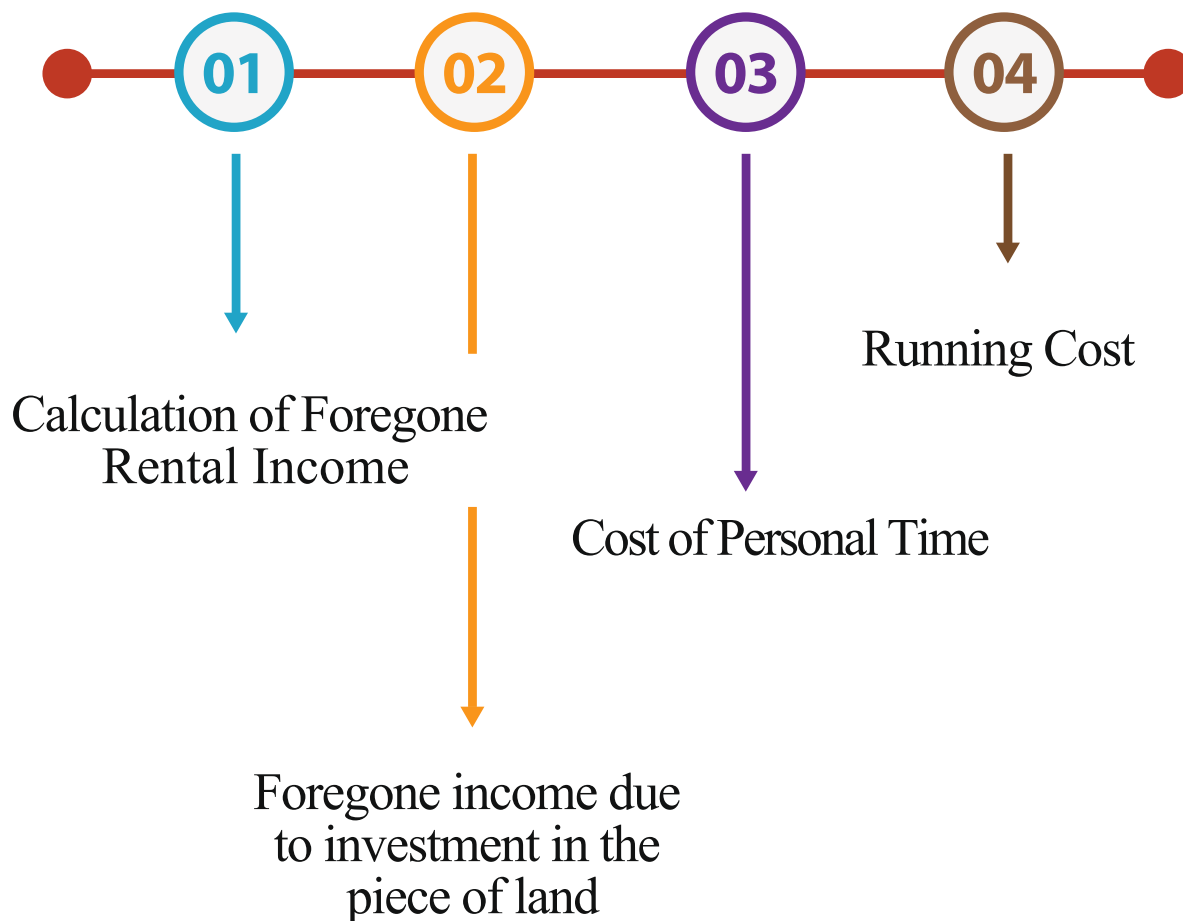


Table-1.3 (G) : Time Consumed-Official Claim vs. Assessment from Respondents

No	Steps	Time	
		As per Official Claim	Assessed
1	Receive Documents	10 days	9 Months
2	Scrutiny of the Documents		
3	Ask applicant to submit missing Documents	45 days	
4	Receive additional Documents		
5	Schedule Site Visit		
6	Site Visit		
7	Assessment report by inspector		
8	Ask applicant to incorporate suggestions		
9	Issue NOC		
TOTAL		130 days	More than 12 months



Calculation of Cost of the Sludge



01 Calculation of Foregone Rental Income

We assume that the average time for the construction of a mega project is around 5 years. Once the construction is completed, we also assume that another 6 months are required for marketing and finishing the deals. Therefore, after the lapse of 5.5 years, the owner of the mega project, let's say a high-rise building, may receive the rental income from the project. Hence, a project launched in 2014, will generate rental income in 2020. However, the prolonged delays in getting the construction permit will hamper the realization of this rental income.

To calculate the foregone rental value, we utilized the information about rents of commercial buildings listed at zameen.com, specifically the properties available for rent at the Centaurus Islamabad, and average out the rental value per square feet for Islamabad. Furthermore, we assume that the high-rise building under consideration has been developed on a plot of 53 Kanals with a constructed area of 700,000 square feet. The table below shows the foregone rental value based on average rent Rs. 792 per square foot during 2021. The rental values for 2020 are calculated by assuming a 10% annual increase in the rents, which is a standard practice in the real estate market. The total cost of the project under consideration is assumed to be Rs. 35.45 billion.

Foregone Rental Value (Rs. Billion)

01	2020	5.85
02	2021	6.65
	Total	12.50

02 Foregone income due to investment in the piece of land

We assume a 10% rate of return on the amount if invested in a long-term saving plan instead of buying the piece of land for the commercial building. The amount involved in the purchase of land is again calculated based on the average price of commercial plots available for sale in the vicinity of Blue Area Islamabad, at zameen.com. Since the plot size we assumed is 53 Kanals the average sale price of commercial plots is around Rs. 200,000 per square foot. Therefore, the investment required to purchase this hypothetical plot is around Rs. 57.41 billion at present (February, 2022). To compute the value of the same piece of land in 2015, we utilize the annualized average price increase of commercial plots from 2015 to 2021. The information about the average increase in the price of commercial plot was again gathered from zameen.com. Our estimates suggest that the price of the plot was around Rs. 25.48 billion in 2015. Based on the land price in 2015, the table below contains the opportunity cost of the investment in the piece of land.

Foregone Income Due to Purchase of Land (Rs. Billion)

01	2016	2.92
02	2017	3.25
	Total	5.11

03 Cost of Personal Time

The opportunity cost of personal time involved in getting a construction permit from EPA has been captured by assuming the minimum average salary of a developer, which is around Rs. 550,000 per month during 2021. The personal time cost from 2015 to 2020 was then calculated regressively by deflating the personal time cost of 2021 by a factor of 10 %. The table below contains annualized personal time cost of delays.

Personal Time Cost (Rs. Million)		
01	2015	3.50
02	2016	3.89
03	2017	4.33
04	2018	4.81
05	2019	5.36
06	2020	5.94
07	2021	6.60
	Total	34.43

04 Running Cost

We assume an office dedicated to project supervision with 10 staff members was established. The average monthly salary of the office staff is Rs. 150,000 per month during 2021. Total running cost for previous years is again computed by assuming a 10% annual increase in the salary bill.

Running Cost (Rs. Million)		
01	2015	16.94
02	2016	17.11
03	2017	17.29
04	2018	17.46
05	2019	17.64
06	2020	17.82
07	2021	18.00
	Total	122.26



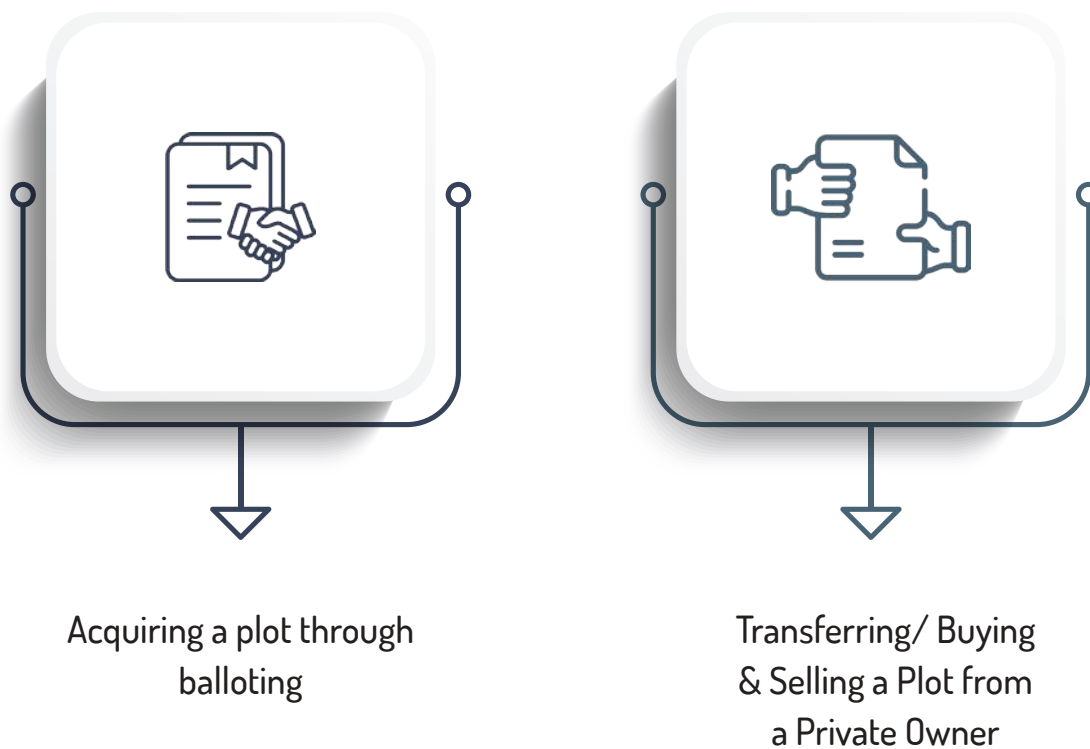
1.4

BUYING AND SELLING A PLOT IN A PRIVATE HOUSING SOCIETY

The private sector was encouraged to enter the housing market because CDA could not acquire land and build sectors fast enough to cater to the housing demand in Islamabad (Hasan, et al., 2021).

Islamabad does not have a single development regime. It is divided into five zones under Islamabad Capital Territory (Zoning) Regulation 1992. In zones 2 and 5, the private sector could purchase land and develop housing societies subject to regulations. Therefore, these zones observed a mushroom growth of private housing societies.

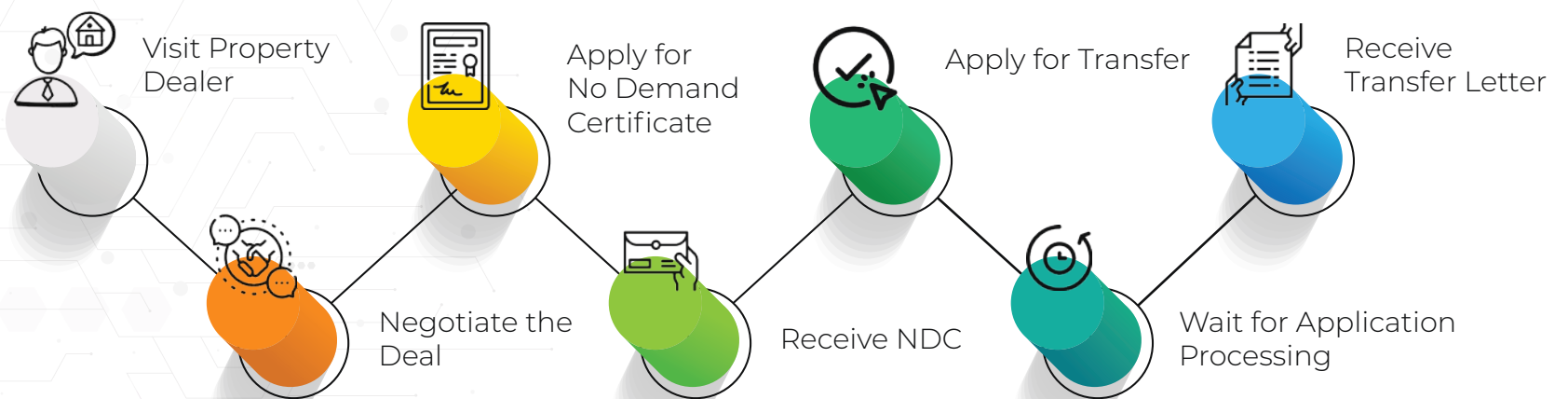
However, acquiring or transferring a plot in these housing societies is a process clogged with sludge. To capture sludge in private housing societies, we focused on the Defence Housing Authority (DHA) Valley and DHA Phase II. We covered both type of transactions, which are:

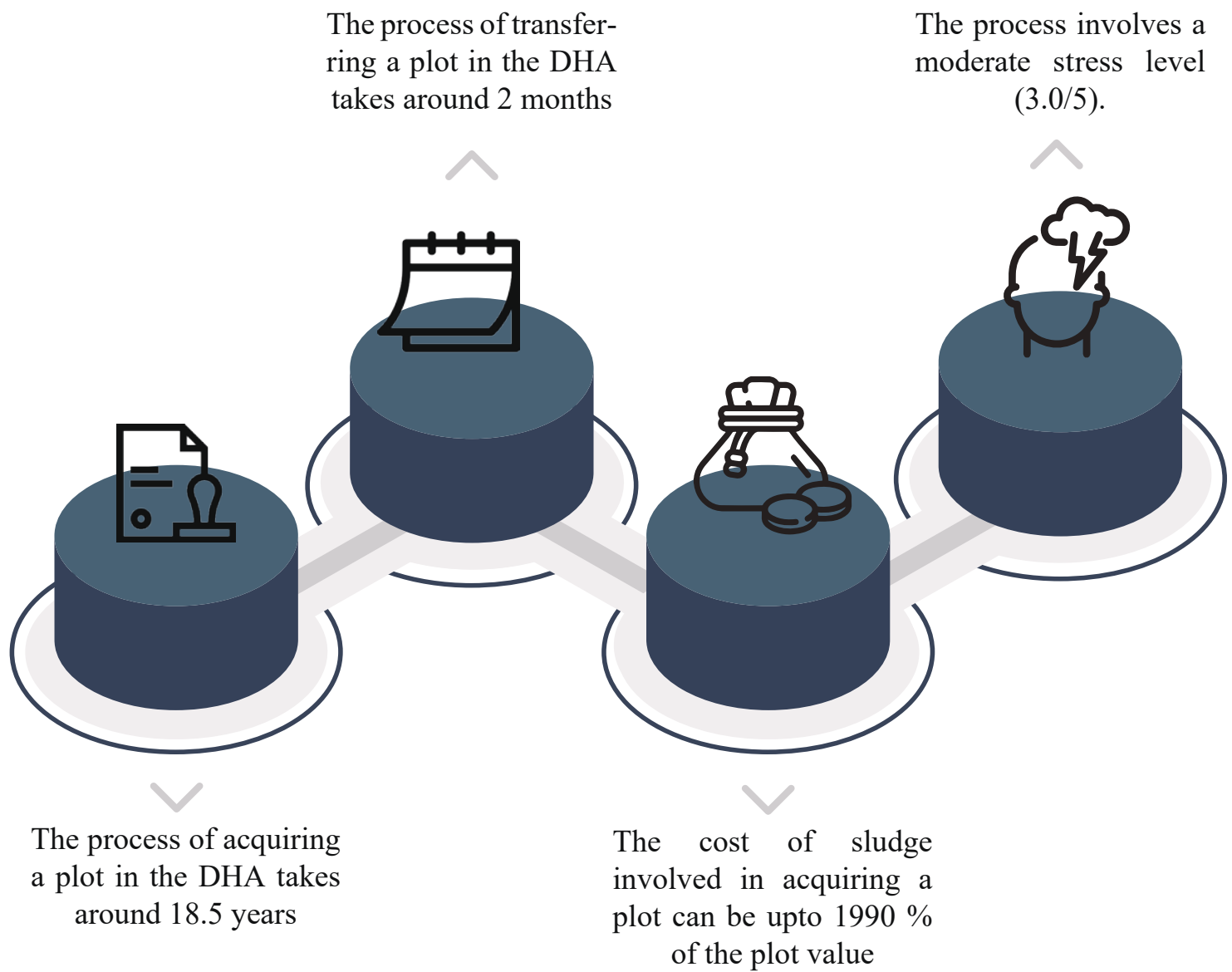


THE PROCESS OF ACQUIRING A PLOT IN DHA

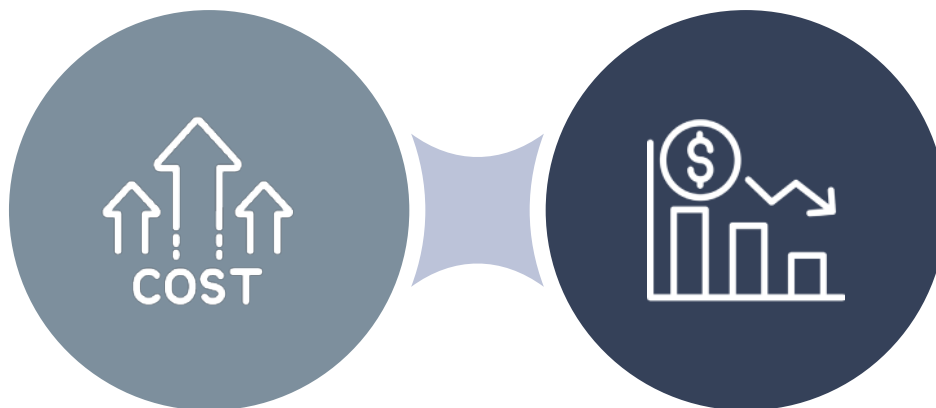


THE PROCESS OF TRANSFERRING A PLOT IN DHA





The sludge involved in buying a plot in a private housing society costs the economy around 2.75 % of GDP



Based on the suggested recommendations the cost of sludge can be reduced by 98 % in the case of acquiring a plot

CHART-1.4 (A): ACQUIRING A PLOT IN THE DHA

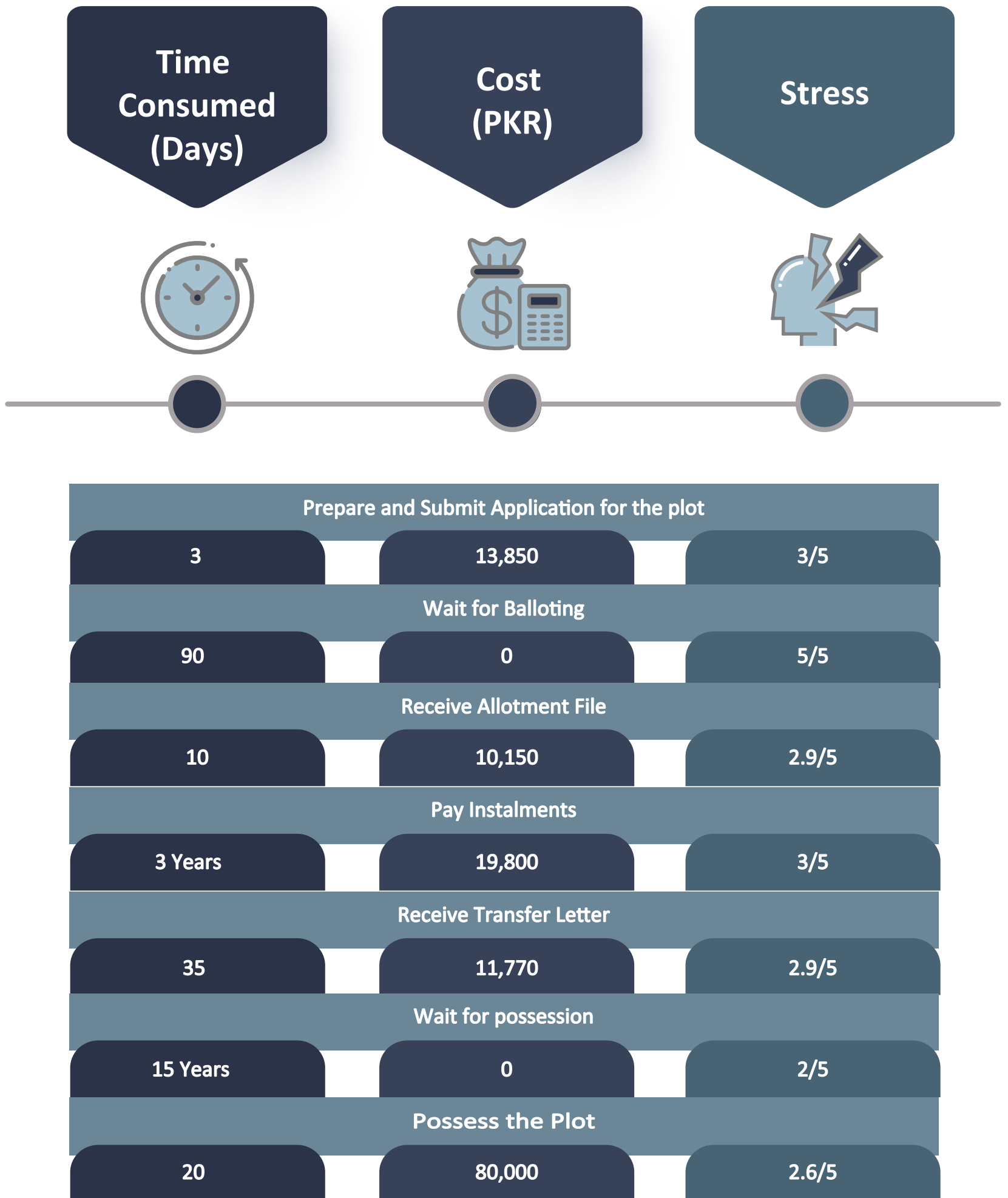
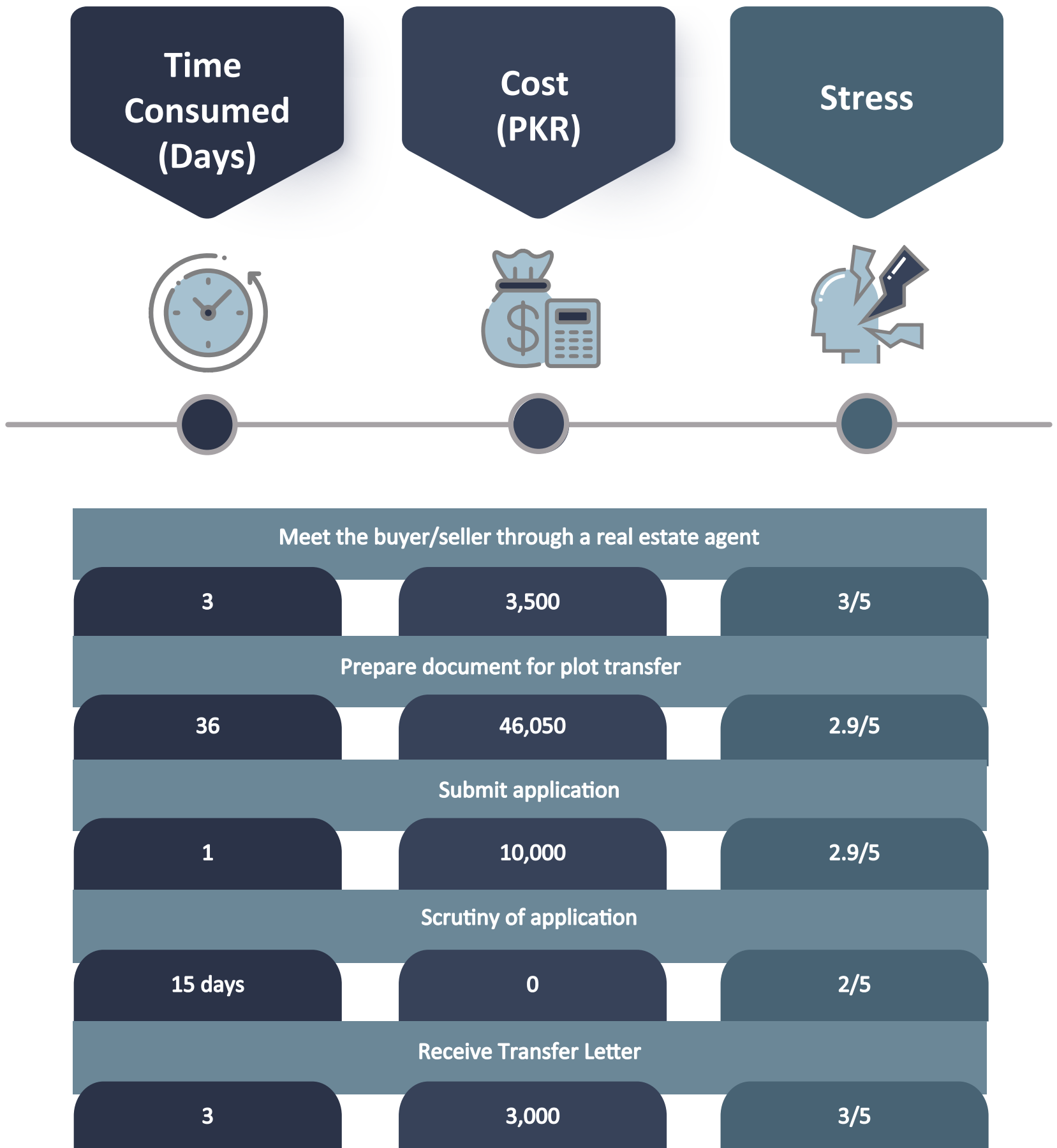


CHART-1.4 (B) : TRANSFERRING A PLOT IN THE DHA

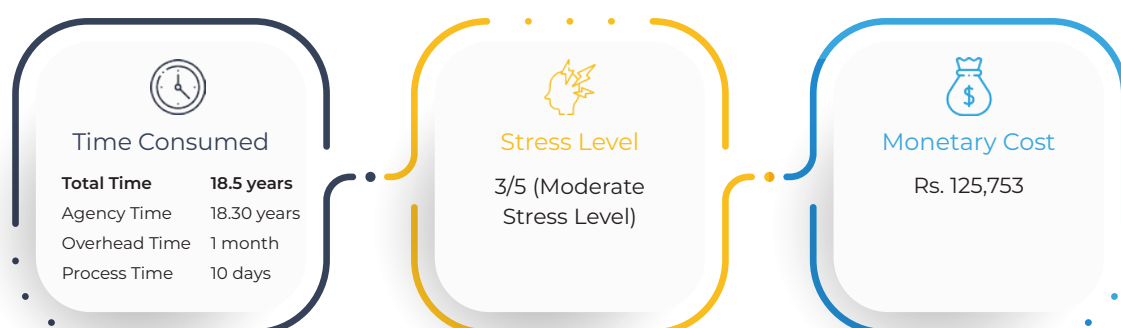


SOURCES OF THE SLUDGE

The biggest source of sludge in the allotment of the plots is the fact that at the time of seeking applications for allotment of plots, the DHA has typically not acquired the land which is to be developed and plotted. Perhaps the objective is to use the finance raised through applications for allotment of plots for purchase of the land. While the allottee has to pay the installments typically in 03 years, the possession of the plot is given in 15 years. Thus the money paid by the allottee remains with the DHA for 12-15 years, which is either used for undertaking development work in the sector, where the plot has been allotted or is used for investing elsewhere by the DHA or merely earns interest income for the DHA.

The non-use of online sources for submission of application for the allotment of plot, a deposit of fees digitally in the bank, and several documents to the DHA also contributes extensively to the sludge in terms of time as well as cost.

ACQUIRING A PLOT IN THE DEFENCE HOUSING AUTHORITY SCHEME



TRANSFERRING A PLOT IN THE DEFENCE HOUSING AUTHORITY SCHEME



Agency Time

The time consumed by the department/agency concerned in processing an activity.

Overhead Time

Part of the day lost due to being involved in this activity.

COST OF THE SLUDGE

Some aspects of the cost of sludge borne are captured by considering the following dimensions of the transaction.

1. Foregone Income due to Investment in the Plot

To measure the cost incurred due to prolonged delays involved in possessing a plot at the DHA, we assumed alternate investment opportunities that the investor could have at the time of applying for the scheme. We consider two alternate scenarios: i) the amount invested in the risk-free investment with an annual rate of return of 10 %, or ii) the amount invested in purchasing gold instead of the plot. Our estimates suggest¹ that if the amount had been invested in a risk-free investment scheme, the expected return in 18.5 years would be around 317% of the investment made to purchase the plot. However, in the case of gold, the ratio expected return goes to 397% of the plot value in 2004.

Head	Cost of the sludge
Increase in the Construction Cost	150.00 %
Rental Cost	1142 % of Plot Value
Foregone Income due to Investment in the Plot	23.30 % of Plot Value
Foregone Income Due to Investment in the Plot	
Risk-free Investment (Scenario-I)	317 % of Plot Value
Investment in Gold (Scenario-II)	397 % of Plot Value

¹See page 93 for details

2. Rental Cost

We assumed that the investment made in the purchase of a plot is basically for the construction of the house. The person buying the plot expects to have possession of the plot after 3 years when the installments plan expires. However, in practice, the possession is handed over after 18 years. Therefore, the investor must pay rent for 15 years. The cost of rents paid due to 15 years delay in the possession work out to 1142% of the plot value.

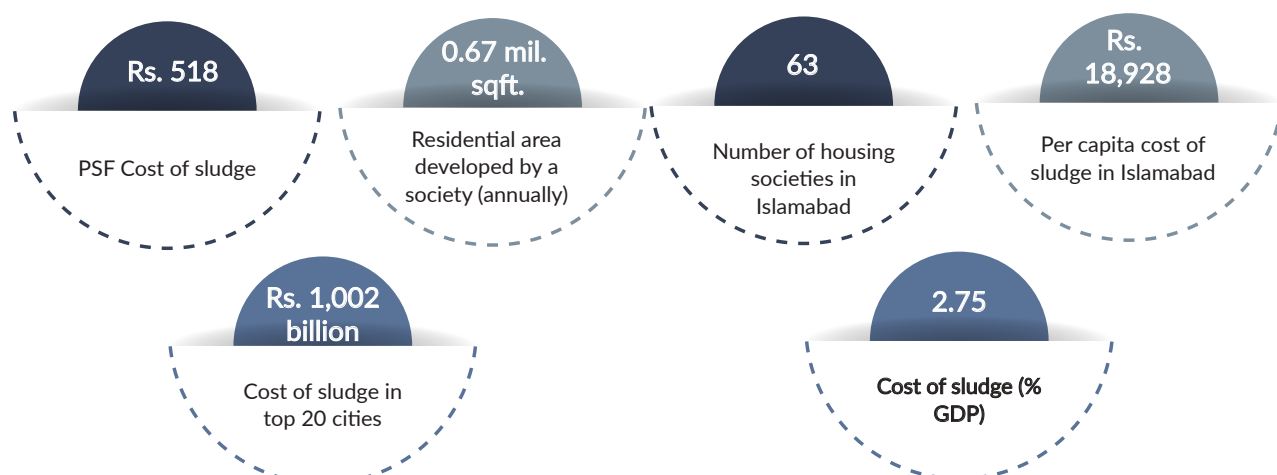
3. Hikes in the Construction Cost

Based on the mentioned assumption that the objective is to construct a house, another indirect cost of the sludge comes in the form of an increase in the construction cost during 15 years of waiting for possession. The component-wise data of construction cost from the Pakistan Bureau of Statistics (PBS) indicates that construction cost increased by around 150% from 2007 to 2021.

COST OF THE SLUDGE IN TERMS OF GDP

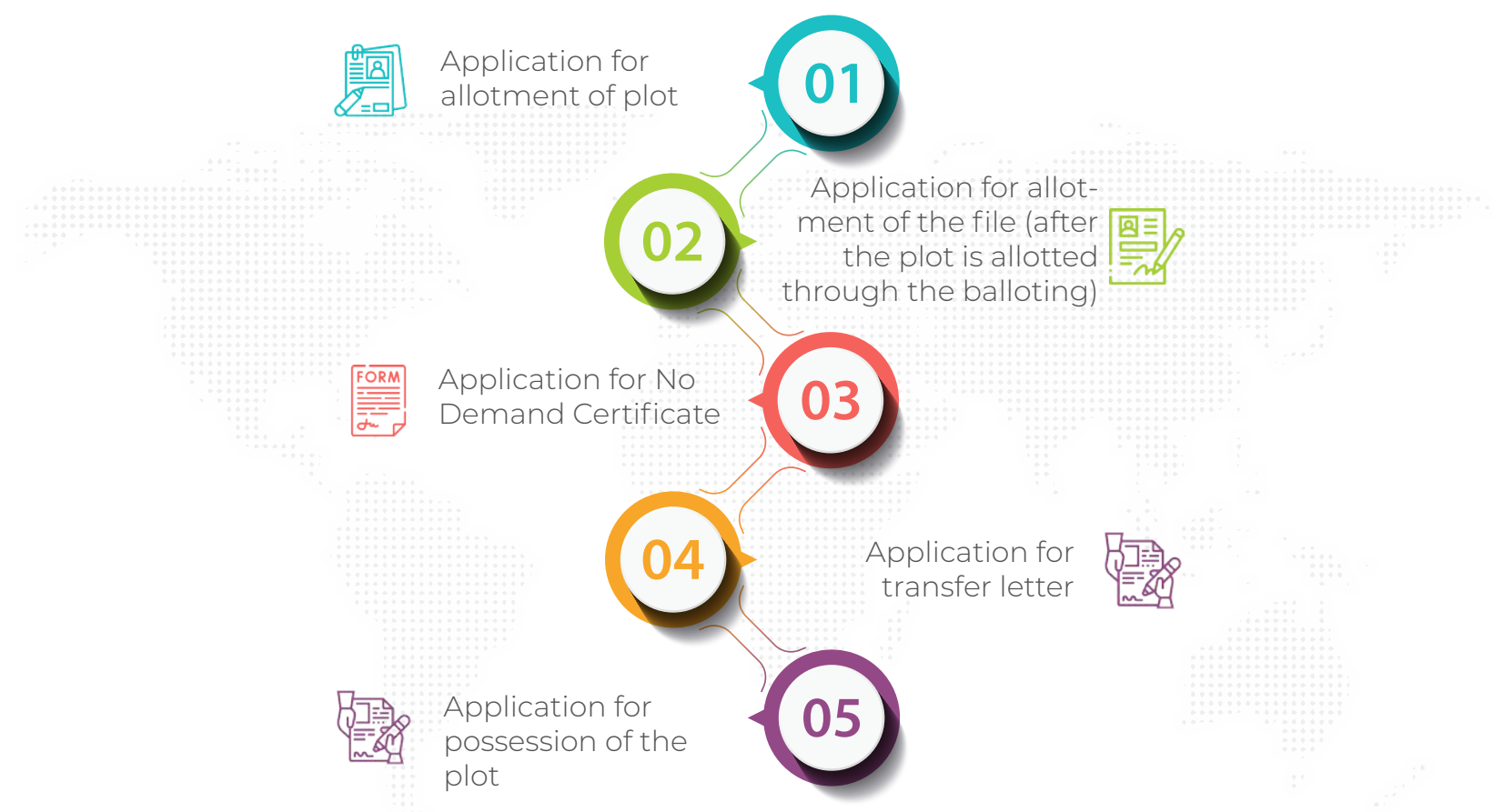
To assess the impact of the cost of regulation on the economy, we translate the cost of sludge in acquiring a plot (108 % of plot value) in terms of GDP. The task is performed based on the following information: (i) average Per Square Foot (PSF) cost of sludge in acquiring a plot, (ii) average residential square feet developed by a housing society, (iii) number of private housing societies in Islamabad, and (iv) urban population in top 20 cities of Pakistan.

To calculate the average residential area the has been developed by a society in 1 year, we gathered information about all housing societies situated in Islamabad. By taking into consideration the number of residential plots along with size we were able to calculate annual residential area developed by an authority. The critical assumption in this calculation is that the private housing society takes the same time in development as the DHA.



CUTTING THE SLUDGE

The applicant must visit the DHA office for the following.



²We used market survey data for the components where PBS data is not available.

Out of the five requests mentioned above that the applicant has to make to the DHA, only the first one is required on part of the applicant. The rest of the matters should not require a request on part of the applicant; rather the DHA should do these on its own.

If the plot has been allotted and the applicant has fulfilled the requirements for issuance of the file, then the DHA should issue this on its own without requiring the applicant to make a request.

If the applicant has paid all the money that is due to the DHA, then this record is available with DHA. After the settlement of all dues by the applicant, the issuance of the transfer letter and possession letter should be the responsibility of the DHA. The DHA should fulfill this responsibility automatically rather than requiring the allottee to ask for 'transfer letter' and the 'possession letter'.

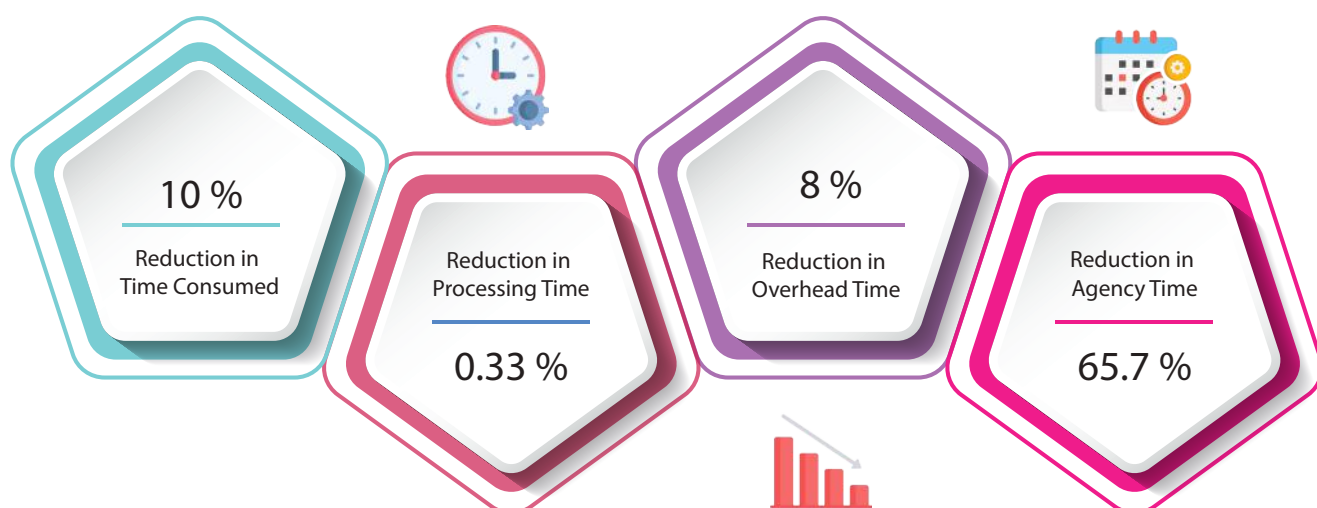
In the case of transferring a plot, the search cost for the plot can be reduced significantly if the sale options are listed on an online listing service. One can easily trace the vacant spots and visit these even without the support of a realtor.

Digitization and online transfer: The hassle that a person a buyer/seller goes through to transfer his/her plot can be avoided if the will to execute the transfer/sale online is developed. The updated record of dues payable by the owner of any plot is available with the CDA. The owner of the plot should always know what is payable by him/her to the DHA. This information can be made available online to the respective owners upon request, just as a bank informs an account holder about the status of his/her bank account.

The transfer of plot can also be administered online – transfer of title is a mere book entry – inserting the name of ‘X’ (buyer) as owner replacing ‘Y’ (seller) – this can be done digitally after ensuring that requisite formalities have been completed by the buyer and the seller. The provided information can be verified from the NADRA record and the fee for such verification can be collected online from the buyer along with the transfer fee. Transfer in this manner will eliminate the need for all kinds of paperwork and the titles will be available with the DHA in digitized form with no need for the owner to essentially retain a copy.

Recommendation: All housing/development authorities must own and possess the land before they ask the public to apply for allotment of plots against certain land.

Cutting the Sludge: Reduction in Time Consumed and Cost Based on the Recommendations



Color Legend



Table-1.4 (A): Time Consumed in Acquiring a Plot in DHA

Steps	Description	Time (Minutes)				Overhead Time (Minutes)	Agency Time	
		Travel	Waiting	Transaction/Process	Total			
Project Announces	Project advertises							
Prepare Documents	Application form	Visit net café	45			45	480 (1 day)	
		Fill application form		30	30	60		
		Take prints		30	10	40		
	CNICs copies	Visit photocopier	45			45		
		Copy CNICs		10	10	20		
	Passport size photo	Visit photo studio	45			45		
		Get photographed		30	10	40		
		Finish the day	45			45		
	Domicile copy	Visit National Bank	45			45	960 (2 days)	
		Pay fee challan		30	10	40		
		Finish the day	45			45		
		Prepare other documents		30	60	90		
		Visit citizen facilitation center	45			45		
		Enter data		60	30	90		
		Obtain e-receipt		30	10	40		
		Finish the day	45			45		
		Revisit citizen facilitation center	45			45		
		Collect domicile		30	10	40		
	Finish the day	45			45			
	Processing and application form fee	Visit the bank	45			45	240 (1/2 day)	
Pay fee challan			30	15	45			
Finish the day		45			45			
Submit Application	Visit-1 DHA office	45			45	480 (1 day)		
	Submit application		60	30	90			
	Finish the day	45			45			
Balloting	Applicant name drawn						43,200 (90 days)	
Request to Open File	Visit-2 DHA office		45			45		
	Membership form	Collect membership form		60	10	70		
		Fill the form			30	30		
		Finish the day	45			45		

	Pay Fee	Visit the bank	45			45	1,440 (3 days)	480 (1 day)
		Pay fee challan		30	10	40		
		Finish the day	45			45		
	Passport size photo	Visit photo studio	45			45		
		Get photographed		60	10	70		
		Finish the day	45			45		
	Visit-3 DHA office	45			45			
	Submit application		60	10	70			
Finish the day	45			45				
Verification by the DHA authorities						0		
Allotment File	Visit-4 DHA office		45			45	480 (1 day)	1,440 (3 days)
	Get photographed			60	10	70		
	Sign required forms			30	10	40		
	Receive allotment letter			60	10	70		
	Finish the day		45			45		
Pay Instalments (12 quarterly equal installments)	Pay order	Visit the bank	45			45	5,760 (12 days)	518,400 (3 years)
		Fill the form		30	10	40		
		Receive pay order		45	5	50		
	Dispatch pay order	Visit post office	45			45		
		Dispatch the package		5	10	15		
Finish the day	45			45				
No Demand Certificate for Plot Transfer	Visit-5 DHA office		45			45	1,440 (3 days)	3,360 (7 days)
	Meet No Demand Certificate (NDC) department			60	10	70		
	Finish the day		45			45		
	NDC Fee	Visit the bank	45			45		
		Pay fee challan		30	10	40		
		Finish the day	45			45		
	Installment Report	Visit photocopier	45			45		
		Copy/print installment and tax details		90	30	120		
		Finish the day	45			45		
	Visit-6 DHA office		45			45		
	Apply for NDC			60	10	70		
	Finish the day		45			45		
	Visit-7 DHA office		45			45		
	Collect NDC			60	10	70		
Finish the day		45			45			
Prepare Documents for Plot Transfer	NDC certificate			60	10	70	960 (2 days)	
	Attested CNIC copy	CNIC copy	45			45		
		Attestation		60	30	90		
	Passport size photo	Visit photo studio	45			45		
		Get photographed		60	10	70		
		Finish the day	45			45		
	Statement of dues	Visit-8 account section DHA	45			45		
Receive a statement of dues			60	15	75			
Apply for Plot Transfer	Visit-9 DHA office		45			45	480 (1 day)	
	Submit application			60	15	75		
	Get photographed			60	10	70		
	Finish the day		45			45		
Wait for Transfer Letter						0		7,200 (15 days)
Receive Transfer Letter	Visit-10 DHA office		45			45	480 (1 day)	
	Receive transfer letter			60	10	70		
	Finish the day		45			45		

Wait for Possession						0		2,592,000 (15 years)
Prepare Documents for Possession Certificate	Attested CNIC copy	CNIC copy	45	5	10	60	960 (2days)	
		Attestation	45	60	30	135		
	Copy of allotment and transfer letters		45	5	10	60		
	Copy of the statement of dues			5	10	15		
Apply for Possession	Visit-11 DHA office		45			45	480 (1day)	7,200 (15 days)
	Fill application form			60	30	90		
	Apply for possession			60	15	75		
	Finish the day		45			45		
Possessthe Plot	Visit-12 DHA office		45			45	480 (1day)	7,200 (15 days)
	Possession handed over			60	30	90		
	Finish the day		45			45		
Total Time (days)						10	29.5	6,614
Aggregate Time (years)								18.48



Table-1.4 (B): Monetary and Opportunity Cost in Acquiring a Plot in DHA

No	Steps	Description	Cost			Opportunity Cost	
			Travel	Fee	Total		
1	Project Announcement	Project advertises					
2	Prepare Documents	Application form	Visit net café	500		500	750
			Fill application form		100	100	1,000
			Take prints		50	50	667
		CNICs copies	Visit photocopier	500		500	750
			Copy CNICs		50	50	333
		Passport size photo	Visit photo studio	500		500	750
			Get photographed		250	250	1,333
			Finish the day	500		500	750
		Domicile copy	Visit National Bank	500		500	750
			Pay fee challan		200	200	667
			Finish the day	500		500	750
			Prepare other documents		200	200	1,500
			Visit citizen facilitation center	500		500	750
			Enter data				1,500
			Obtain e-receipt				667
			Finish the day	500		500	750
			Revisit citizen facilitation center	500		500	750
			Collect domicile				667
		Processing and application form fee	Visit the bank	500		500	750
			Pay fee challan		6000	6000	750
Finish the day	500			500	750		
3	Submit Application	Visit-1 DHA office	500		500	750	
		Submit application				1,500	
		Finish the day	500		500	750	
4	Balloting	Applicant name drawn				-	
5	Request to Open File	Visit-2 DHA office	500		500	750	
		Membership form	Collect membership form		150	150	1,167
			Fill the form			-	500
			Finish the day	500		500	750
		Pay Fee	Visit the bank	500		500	750
			Pay fee challan		5,000	5,000	667
			Finish the day	500		500	750
		Passport size photo	Visit photo studio	500		500	750
			Get photographed			-	1,167
			Finish the day	500		500	750
		Visit-3 DHA office	500		500	750	
Submit application			-	1,167			
Finish the day	500		500	750			
6	Verification by the DHA authorities				-	-	
7	Allotment File	Visit-4 DHA office	500		500	750	
		Get photographed			-	1,167	
		Sign required forms			-	667	
		Receive allotment letter			-	1,167	
		Finish the day	500		500	750	

8	Pay Instalments (12 quarterly equal installments)	Pay order	Visit the bank	500		500	750
			Fill the form			-	667
			Receive pay order			-	833
		Dispatch pay order	Visit post office	500		500	750
			Dispatch the package		150	150	250
Finish the day	500			500	750		
9	No Demand Certificate for Plot Transfer	Visit-5 DHA office		500		500	750
		Meet No Demand Certificate (NDC) department			2,000	2,000	1,167
		Finish the day		500		500	750
		NDC Fee	Visit the bank	500		500	750
			Pay fee challan		2,000	2,000	667
			Finish the day	500		500	750
		Installment Report	Visit photocopier	500		500	750
			Copy/print installment and tax details		20	20	2,000
			Finish the day	500		500	750
		Visit-6 DHA office		500		500	750
		Apply for NDC				-	1,167
		Finish the day		500		500	750
		Visit-7 DHA office		500		500	750
		Collect NDC				-	1,167
Finish the day		500		500	750		
10	Prepare Documents for Plot Transfer	NDC certificate				-	1,167
		Attested CNIC copy	CNIC copy	500		500	750
			Attestation	500		500	1,500
		Passport size photo	Visit photo studio	500		500	750
			Get photographed		250	250	1,167
			Finish the day	500		500	750
		Statement of dues	Visit-8 account section DHA	500		500	750
Receive a statement of dues				-	1,250		
11	Apply for Plot Transfer	Visit-9 DHA office		500		500	750
		Submit application				-	1,250
		Get photographed				-	1,167
		Finish the day		500		500	750
12	Wait for Transfer Letter				-	-	
13	Receive Transfer Letter	Visit-10 DHA office		500		500	750
		Receive transfer letter				-	1,167
		Finish the day		500		500	750
14	Wait for Possession				-	-	
15	Prepare Documents for Possession Certificate	Attested CNIC copy	CNIC copy	500		500	1,000
			Attestation	500		500	2,250
		Copy of allotment and transfer letters				-	1,000
		Copy of the statement of dues				-	250
16	Apply for Possession	Visit-11 DHA office		500		500	750
		Fill application form				-	1,500
		Apply for possession			5,000	5,000	1,250
		Finish the day		500		500	750
17	Possessthe Plot	Visit-12 DHA office		500		500	750
		Possession handed over				-	1,500
		Finish the day		500		500	750
Total Cost						125,753	

Box-4: Stress Percentage

The distribution of stress across steps has been calculated by multiplying the total process time (including travel, wait, and transaction time) of each step with the stress level. The Stress % column in the table contains a percentage representation of stress distribution.


Table-1.4 (C): Stress Involved in Transferring a Plot in DHA

No	Steps	Description	Stress Level	Stress %	
1	Project Announcement	Project advertises			
2	Prepare Documents	Application form	Visit net cafe	3	0.89
			Fill application form	5	1.97
			Take prints	4	1.05
		CNICs copies	Visit photocopier	2	0.59
			Copy CNICs	3	0.39
		Passport size photo	Visit photo studio	2	0.59
			Get photographed	2	1.05
			Finish the day	2	0.59
		Domicile copy	Visit National Bank	4	1.18
			Pay fee challan	5	1.31
			Finish the day	2	0.59
			Prepare other documents	4	2.36
			Visit citizen facilitation center	2	0.59
			Enter data	5	2.95
			Obtain e-receipt	3	0.79
			Finish the day	2	0.59
			Revisit citizen facilitation center	2	0.59
			Collect domicile	5	1.31
		Finish the day	2	0.59	
		Processing and application form fee	Visit the bank	2	0.59
Pay fee challan	5		1.48		
Finish the day	2		0.59		
3	Submit Application	Visit-1 DHA office	2	0.59	
		Submit application	5	2.95	
		Finish the day	2	0.59	
4	Balloting	Applicant name drawn	5	0.00	
5	Request to Open File	Visit-2 DHA office	4	1.18	
		Membership form	Collect membership form	1	0.46
			Fill the form	5	0.98
			Finish the day	2	0.59
		Pay Fee	Visit the bank	2	0.59
			Pay fee challan	5	1.31
Finish the day	2		0.59		

		Passport size photo	Visit photo studio	2	0.59
			Get photographed	3	1.38
			Finish the day	2	0.59
			Visit-3 DHA office	2	0.59
			Submit application	5	2.30
			Finish the day	2	0.59
6	Verification by the DHA authorities			1	0.00
7	Allotment File	Visit-4 DHA office		1	0.30
		Get photographed		5	2.30
		Sign required forms		5	1.31
		Receive allotment letter		5	2.30
		Finish the day		2	0.59
8	Pay Instalments (12 quarterly equal installments)	Pay order	Visit the bank	2	0.59
			Fill the form	5	1.31
			Receive pay order	3	0.98
		Dispatch pay order	Visit post office	2	0.59
			Dispatch the package	4	0.39
			Finish the day	2	0.59
9	No Demand Certificate for Plot Transfer	Visit-5 DHA office		2	0.59
		Meet No Demand Certificate (NDC) department		5	2.30
		Finish the day		2	0.59
		NDC Fee	Visit the bank	2	0.59
			Pay fee challan	5	1.31
			Finish the day	2	0.59
		Installment Report	Visit photocopier	2	0.59
			Copy/print installment and tax details	4	3.15
			Finish the day	2	0.59
		Visit-6 DHA office		2	0.59
		Apply for NDC		4	1.84
		Finish the day		2	0.59
		Visit-7 DHA office		2	0.59
		Collect NDC		4	1.84
Finish the day		2	0.59		
10	Prepare Documents for Plot Transfer	NDC certificate		1	0.46
		Attested CNIC copy	CNIC copy	3	0.89
			Attestation	5	2.95
		Passport size photo	Visit photo studio	2	0.59
			Get photographed	5	2.30
			Finish the day	2	0.59
		Statement of dues	Visit-8 account section DHA	2	0.59
Receive a statement of dues	5		2.46		
11	Apply for Plot Transfer	Visit-9 DHA office		2	0.59
		Submit application		5	2.46
		Get photographed		4	1.84
		Finish the day		2	0.59
12	Wait for Transfer Letter			2	0.00
13	Receive Transfer Letter	Visit-10 DHA office		2	0.59
		Receive transfer letter		5	2.30
		Finish the day		2	0.59
14	Wait for Possession			3	0.00

15	Prepare Documents for Possession Certificate	Attested CNIC copy	1	0.39
		CNIC copy Attestation	4	3.54
		Copy of allotment and transfer letters	2	0.79
		Copy of the statement of dues	2	0.20
16	Apply for Possession	Visit-11 DHA office	1	0.30
		Fill application form	4	2.36
		Apply for possession	5	2.46
		Finish the day	2	0.59
17	Possessthe Plot	Visit-12 DHA office	2	0.59
		Possession handed over	4	2.36
		Finish the day	2	0.59



Table-1.4 (D): Time Consumed in Transferring a Plot in DHA

	Steps	Description	Time (Minutes)				Overhead Time (Minutes)	Agency Time		
			Travel	Waiting	Transaction/Process	Total				
1	Meet Property Advisor	Visit property dealer	45			45	480 (1day)			
		Gather information		15	30	45				
		Convey your preference			10	10				
		Finish the day	45			45				
2	Meet the Potential Buyer	Visit property dealer	45			45	480 (1day)			
		Meet the buyer		10	30	40				
		Negotiate the price			10	10				
		Finish the day	45			45				
3	Gather Information from DHA	Visit-1 DHA office	45			45	480 (1day)			
		Meets officials from the marketing department		60	30	90				
		Meet officials from the No Demand Certificate (NDC) department		60	30	90				
		Finish the day	45			45				
4	Prepare Documents	CNICs copies	Visit photocopier	45			45	480 (1day)		
			Copy CNICs		10	10	20			
		Passport size photo	Visit photo studio	45			45			
			Get photographed		70	10	80			
			Finish the day	45			45			
		Processing fee (paid by the buyer)	Visit the bank	45			45			
			Pay fee challan		30	15	45			
			Finish the day	45			45			
		Allotment letter	No Demand Certificate for plot transfer	Visit-2 DHA office	45					45
				Meet No Demand Certificate (NDC) department		60	10			70
				Finish the day	45					45
			NDC Fee	Visit the bank	45					45
				Pay fee challan		30	10			40
				Finish the day	45					45
			Installment Report	Visit photocopier	45					45
				Copy/print installment and tax details		90	30			120
				Finish the day	45					45
			Allotment letter	Visit-3 DHA office	45					45
				Apply for NDC		60	10			70
				Finish the day	45					45
				Visit-4 DHA office	45					45
		Collect NDC			60	10	70			
		Finish the day	45			45				
Prepare documents for plot transfer	NDC certificate			60	10	70				
		Attested CNIC copy	45	10	10	65				
	Passport size photo	Attestation	45	65	30	135				
		Visit photo studio	45			45				
		Get photographed		70	10	80				
	Finish the day	45			45					
	Statement of dues	Visit-5 account section DHA	45			45				
Receive a statement of dues			60	15	75					
						1,440 (3 days)	3,360 (7 days)			
						960 (2days)				

		Apply for plot transfer	Visit-6 DHA office	45			45	480 (1day)	7,200 (15 days)	
			Submit application		60	15	75			
			Get photographed		60	15	75			
			Finish the day	45			45			
		Wait for the transfer letter						0		
		Receive transfer letter	Visit-7 DHA office	45			45	480 (1day)		
			Receive transfer letter		60	15	75			
			Finish the day	45			45			
		Allotment letter						0		
		Sale Agreement Copy	Visit Stamp Paper seller		45			45		480 (1day)
			Print the sale agreement			10	15	25		
			Attestation from DHA	Visit-8 DHA office	45			45		
				Get attestation of the sale agreement		60	15	75		
				Finish the day	45			45		
Undertaking from the buyer to pay the remaining installments			45	60	15	120				
Application form				60	15	75				
5	Submit Application to Transfer the Plot	Visit-9 DHA office	45			45	480 (1day)			
		Submit the application kit		60	15	75				
		Finish the day	45			45				
6	Scrutiny of the Application						0	7,200 (15 days)		
7	Status Check	Visit-10 DHA- NDC office	45			45	480 (1day)			
		Check stater		60	15	75				
		Finish the day	45			45				
8	Transfer Process	Visit-11 DHA office with buyer	45			45	480 (1day)			
		Get photographed		60	15	75				
		Finish the day	45			45				
9	Receive Transfer Letter	Visit-12 DHA office with buyer	45			45	480 (1day)			
		Receive transfer letter		60	15	75				
		Finish the day	45			45				
Total Time (Days)							7.92	15	37	
Aggregate Time (Months)									1.99	



Table-1.4 (E) : Monetary and Opportunity Cost involved in Transferring a Plot in DHA

No	Steps	Description	Cost			Opportunity Cost			
			Travel	Fee	Total				
1	Meet Property Advisor	Visit property dealer	500		500	750			
		Gather information			-	750			
		Convey your preference			-	167			
		Finish the day	00		500	750			
2	Meet the Potential Buyer	Visit property dealer	500		500	750			
		Meet the buyer			-				
		Negotiate the price			-	167			
		Finish the day	500		500	750			
3	Gather Information from DHA	Visit-1 DHA office	500		500	750			
		Meets officials from the marketing department			-	1,500			
		Meet officials from the No Demand Certificate (NDC) department			-	1,500			
		Finish the day	500		500	750			
4	Prepare Documents	CNICs copies	Visit photocopier	500		500	750		
			Copy CNICs		50	50	333		
		Passport size photo	Visit photo studio	500		500	750		
			Get photographed		200	200	1,333		
			Finish the day	500		500	750		
		Processing fee (paid by the buyer)	Visit the bank	500		500	750		
			Pay fee challan		30,000	30,000	750		
			Finish the day	500		500	750		
		Allotment letter	No Demand Certificate for plot transfer	Visit-2 DHA office	500		500	750	
				Meet No Demand Certificate (NDC) department			-	1,167	
				Finish the day	500		500	750	
				NDC Fee	Visit the bank	500		500	750
					Pay fee challan		2,000	2,000	667
					Finish the day	500		500	750
			Installment Report	Visit photocopier	500		500	750	
				Copy/print installment and tax details		50	40	2,000	
				Finish the day	500		500	750	
			Visit-3 DHA office	500		500	750		
			Apply for NDC			-	1,167		
			Finish the day	500		500	750		
		Visit-4 DHA office	500		500	750			
		Collect NDC			-	1,			
		Finish the day	500		500	750			
		Prepare documents for plot transfer	NDC certificate			-	1,167		
Attested CNIC copy	CNIC copy		500	50	550	1,083			
	Attestation		500		500	2,250			
Passport size photo	Visit photo studio		500		500	750			
	Get photographed			200	200	1,333			
	Finish the day		500		500	750			
Statement of dues	Visit-5 account section DHA		500		500	750			
	Receive a statement of dues			-	1,250				

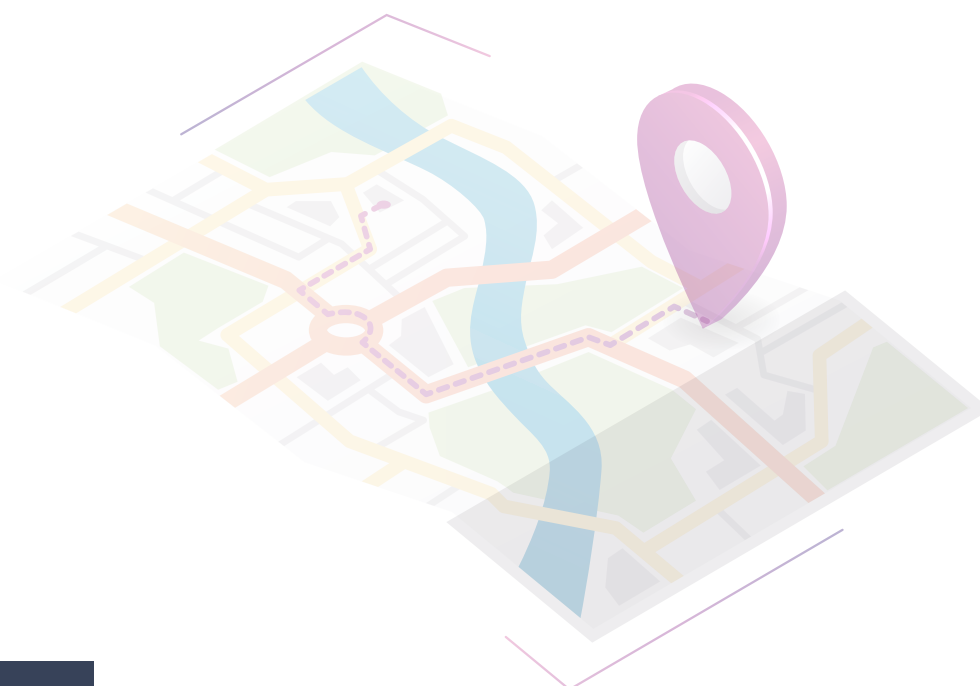
		Apply for plot transfer	Visit-6 DHA office	500		500	750	
			Submit application			-	1,250	
			Get photographed			-	1,250	
			Finish the day	500		500	750	
		Wait for the transfer letter					-	-
		Receive transfer letter	Visit-7 DHA office	500		500	750	
			Receive transfer letter			-	1,250	
			Finish the day	500		500	750	
		Allotment letter					-	-
		Sale Agreement Copy	Visit Stamp Paper seller		500		500	750
			Print the sale agreement			500	500	417
			Attestation from DHA	Visit-8 DHA office	500		500	750
				Get attestation of the sale agreement			-	1,250
				Finish the day	500		500	750
		Undertaking from the buyer to pay the remaining installments					-	2,000
Application form					-	1,250		
5	Submit Application to Transfer the Plot	Visit-9 DHA office		500		500	750	
		Submit the application kit				-	1,250	
		Finish the day		500		500	750	
6	Scrutiny of the Application					-	-	
7	Status Check	Visit-10 DHA- NDC office		500		500	750	
		Check stater					-	1,250
		Finish the day		500		500	750	
8	Transfer Process	Visit-11 DHA office with buyer		500		500	750	
		Get photographed					-	1,250
		Finish the day		500		500	750	
9	Receive Transfer Letter	Visit-12 DHA office with buyer		500		500	750	
		Receive transfer letter					-	1,250
		Finish the day		500		500	750	
Total Time (Days)						116,883		



Table-1.4 (F) : Stress Involved in Transferring a Plot in DHA

No	Steps	Description	Stress Level	Stress %		
1	Meet Property Advisor	Visit property dealer	2	0.74		
		Gather information	3	1.11		
		Convey your preference	3	0.25		
		Finish the day	1	0.37		
2	Meet the Potential Buyer	Visit property dealer	2	0.74		
		Meet the buyer	3	0.99		
		Negotiate the price	4	0.33		
		Finish the day	2	0.74		
3	Gather Information from DHA	Visit-1 DHA office	2	0.74		
		Meets officials from the marketing department	5	3.71		
		Meet officials from the No Demand Certificate (NDC) department	5	3.71		
		Finish the day	3	1.11		
4	Prepare Documents	CNICs copies	Visit photocopier	2	0.74	
			Copy CNICs	3	0.50	
		Passport size photo	Visit photo studio	2	0.74	
			Get photographed	5	3.30	
			Finish the day	2	0.74	
		Processing fee (paid by the buyer)	Visit the bank	2	0.74	
			Pay fee challan	5	1.86	
			Finish the day	2	0.74	
		No Demand Certificate for plot transfer	Visit-2 DHA office	Visit-2 DHA office	2	0.74
				Meet No Demand Certificate (NDC) department	5	2.89
				Finish the day	2	0.74
			NDC Fee	Visit the bank	2	0.74
				Pay fee challan	5	1.65
				Finish the day	2	0.74
			Installment Report	Visit photocopier	2	0.74
				Copy/print installment and tax details	5	4.95
				Finish the day	2	0.74
			Allotment letter	Visit-3 DHA office	2	0.74
				Apply for NDC	5	2.89
				Finish the day	2	0.74
				Visit-4 DHA office	2	0.74
				Collect NDC	4	2.31
		Finish the day		2	0.74	
		Prepare documents for plot transfer	NDC certificate	1	0.58	
			Attested CNIC copy	CNIC copy	3	1.61
				Attestation	5	5.57
			Passport size photo	Visit photo studio	2	0.74
				Get photographed	3	1.98
Finish the day	2			0.74		
Statement of dues	Visit-5 account section DHA		2	0.74		
	Receive a statement of dues	5	3.09			

		Apply for plot transfer	Visit-6 DHA office	2	0.74	
			Submit application	5	3.09	
			Get photographed	4	2.48	
			Finish the day	2	0.74	
		Wait for the transfer letter			3	0.00
		Receive transfer letter	Visit-7 DHA office	2	0.74	
			Receive transfer letter	5	3.09	
			Finish the day	2	0.74	
		Allotment letter			2	0.00
		Sale Agreement Copy	Visit Stamp Paper seller		2	0.74
			Print the sale agreement		5	1.03
			Attestation from DHA	Visit-8 DHA office	2	0.74
				Get attestation of the sale agreement	5	3.09
				Finish the day	2	0.74
Undertaking from the buyer to pay the remaining installments			2	1.98		
Application form			2	1.24		
5	Submit Application to Transfer the Plot	Visit-9 DHA office		2	0.74	
		Submit the application kit		4	0.00	
		Finish the day		2	0.74	
6	Scrutiny of the Application		2	0.00		
7	Status Check	Visit-10 DHA- NDC office		2	0.74	
		Check stater		5	3.09	
		Finish the day		2	0.74	
8	Transfer Process	Visit-11 DHA office with buyer		2	0.74	
		Get photographed		5	3.09	
		Finish the day		2	0.74	
9	Receive Transfer Letter	Visit-12 DHA office with buyer		2	0.74	
		Receive transfer letter		5	3.09	
		Finish the day		2	0.74	



Calculation of Cost of The Sludge

- **Foregone Income due to Investment in the Plot**

We assumed that the investment in the purchase of the plot was made in 2004. The price of a 5 marla plot in 2004 was around Rs. 600,000 in DHA Islamabad. To calculate the opportunity cost of Rs. 600,000, we consider two scenarios. In Scenario I, we assume the investment of the same amount in risk-free investment at an annual rate of return of 10 %. In Scenario II, we assume the amount used to buy gold instead of plot. The tables below contain the details of return on these alternate investments.

Scenario I – Risk-Free Investment	
Year	Annual Return (Rs.)
2007	60,000
2008	66,000
2009	72,600
2010	79,860
2011	87,846
2012	96,631
2013	106,294
2014	116,923
2015	128,615
2016	141,477
2017	155,625
2018	171,187
2019	188,306
2020	207,136
2021	227,850
Total	1,906,349
% of Plot Value	317

Scenario I – Risk-Free Investment	
Available Investment (Rs.)	600,000
Gold price in 2004 (Rs.)	22120
Gold Purchased (Tola)	27.12
Gold price in 2021 (Rs.)	110163
Value of the Gold Purchased (Rs.)	2987620.56
Increase (Rs.)	2,387,621
% of plot value	397.93

• Rental Cost

A 15-year delay in handing over the possession to the buyer led the buyer to stay in a rented house. To calculate the cost of sludge that buyer bears in the form of paying rent we utilized the information about rents of a 5 marla house in Islamabad from zameen.com. The average rent for a 5 marla house is around Rs. 70,000. The rental cost from 2007 to 2020 is calculated by assuming a 10% annual increase in rent, which is a standard practice in the real estate sector. The total rental cost stands around 1142% of the plot value.

Year	Annual Rental Cost
2007	215,622
2008	237,184
2009	260,903
2010	286,993
2011	315,692
2012	347,261
2013	381,988
2014	420,186
2015	462,205
2016	508,425
2017	559,268
2018	615,195
2019	676,714
2020	744,386
2021	818,824
Total	6,850,846
% of Plot Value	1142

• Hikes in the Construction Cost

The delay in obtaining possession overruns the estimated cost of construction. A component-wise increase in the cost, along with the weights of the component in the construction, is given in the table below.

Item	Weight (% of Construction Cost)	% Change (2004 to 2021)	Impact on the Project Cost (% of Project Value)
Brick, Sand, Crush, and Rori	14.87	185.34	27.57
Cement, Kassu & Rebar	14.50	171.16	24.81
Labour	13.91	113.96	15.85
Plumbing and Electric C	2.98	266.67	7.95
Grills, Gate and Chougat	3.54	122.73	4.34
Others	1.74	98.38	1.71
Tiles and Marbles	12.81	159.14	20.39
Electrical	6.33	216.67	13.71
Kitchen and Bath Accessories	5.15	157.96	8.13
Paint and Ceiling	7.90	86.44	6.83
Windows and Mirrors	5.96	113.86	6.79
Woodwork	10.31	124.27	12.82
Estimated Project Cost			100.00
Realized Project Cost Due to Delays in Permission			150.89

THE HEALTH SECTOR



In health services, we have focused on the following activities:

- Setting-up a Pharmaceutical Unit.
- Setting-up a Private Hospital.
- Setting-up a Diagnostic Center.
- Setting-up a Pharmacy.

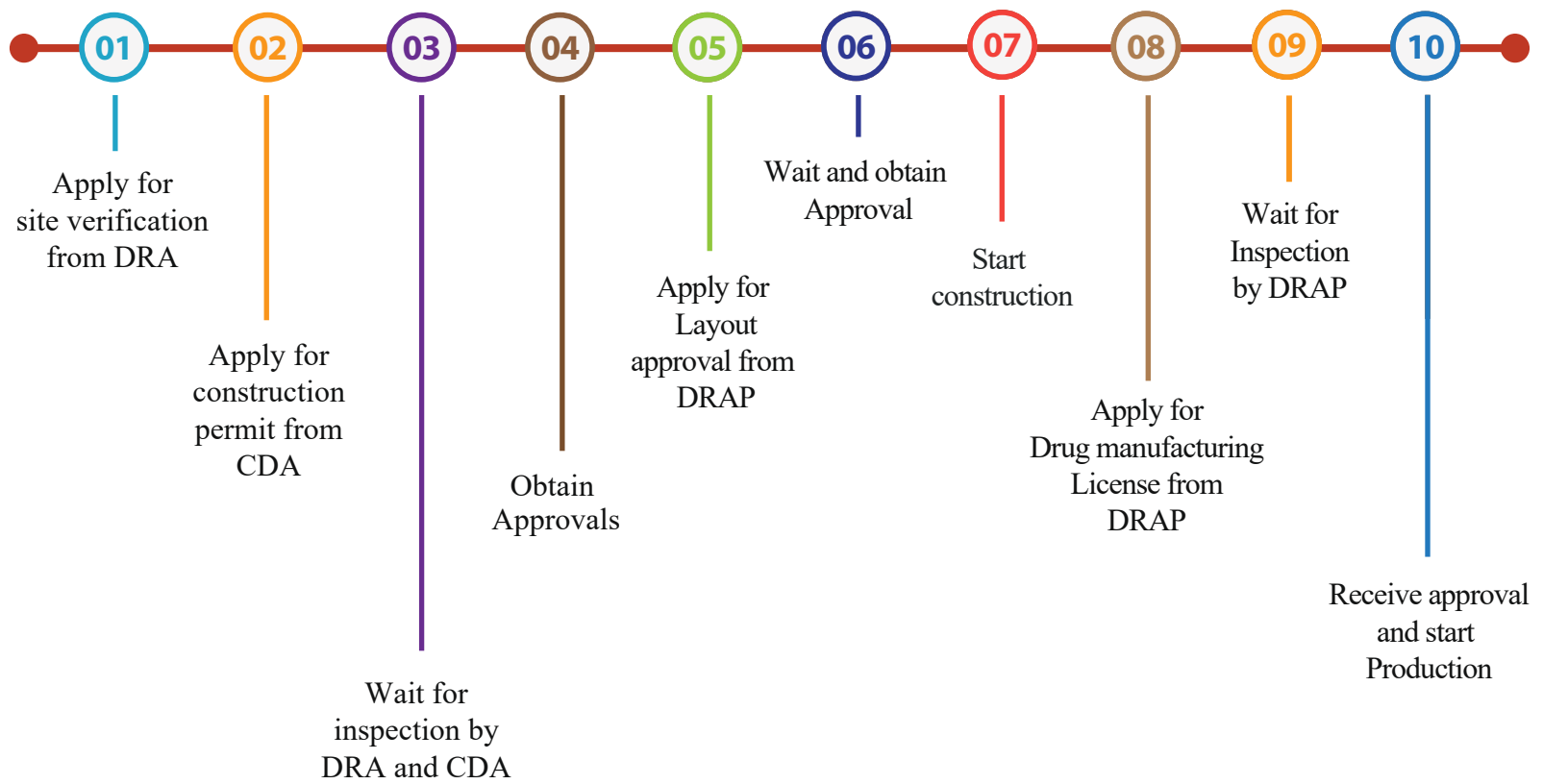


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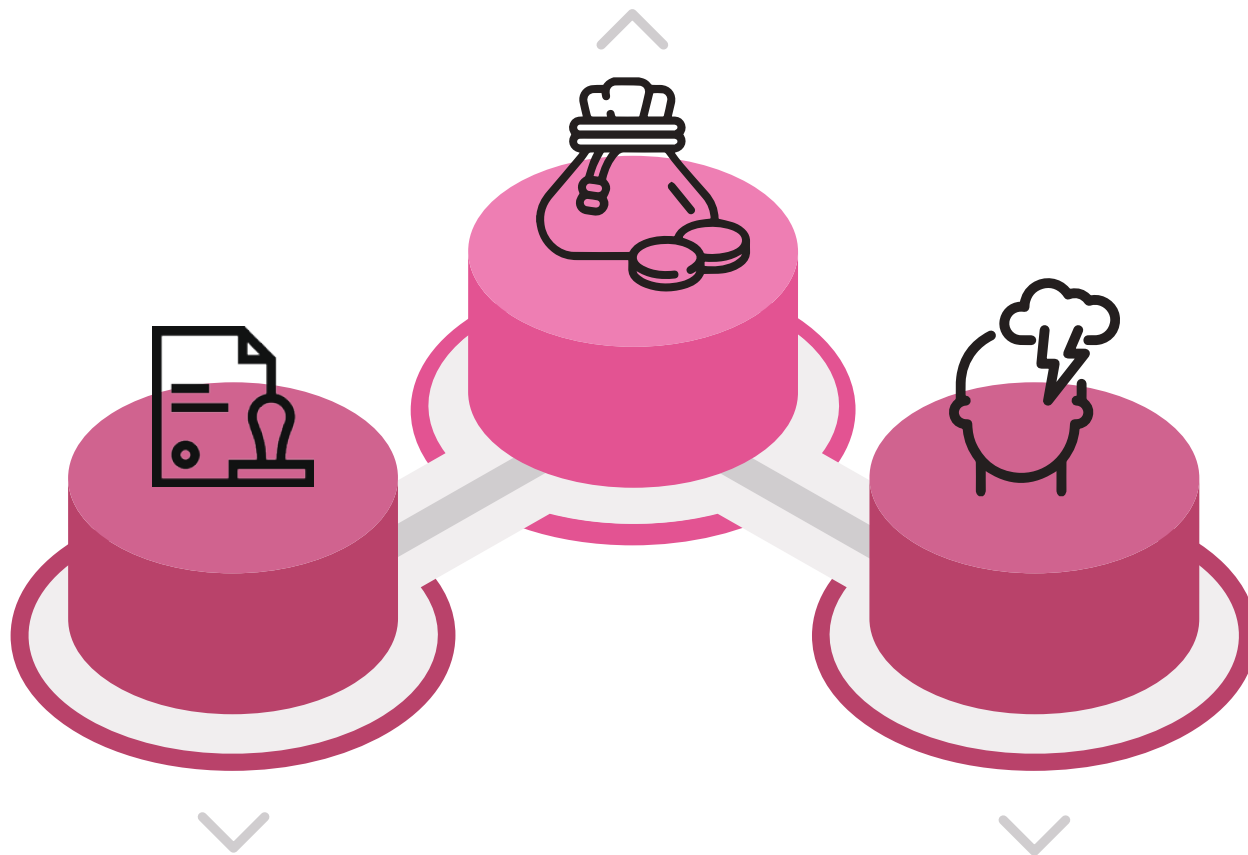
SETTING-UP A PHARMACEUTICAL UNIT

According to the Drug Act (1976) and Drug Regulatory Authority Act (2012), the grant of licenses to manufacture drugs shall be regulated by conditions prescribed by the Central Licensing Board of the Drug Regulatory Authority.

The Process of Setting-Up a Pharmaceutical Unit



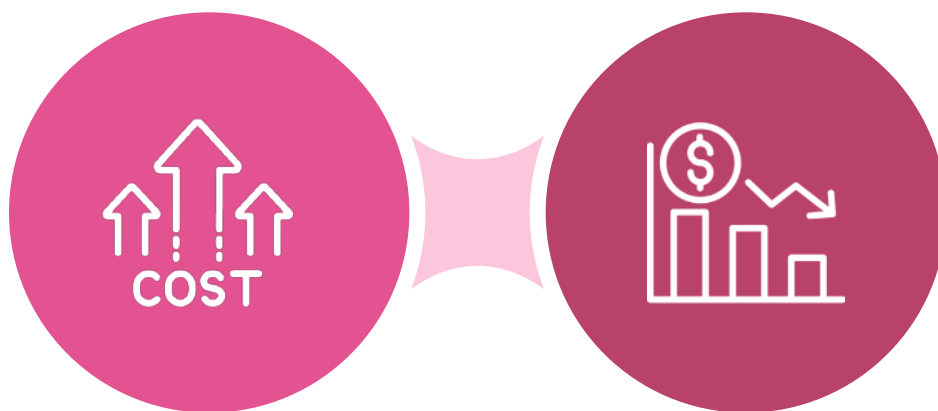
The cost of sludge involved in obtaining permission can be up to 10.3% of the project value.



The process of obtaining permission to set up a pharmaceutical unit consumes more than 2 years.

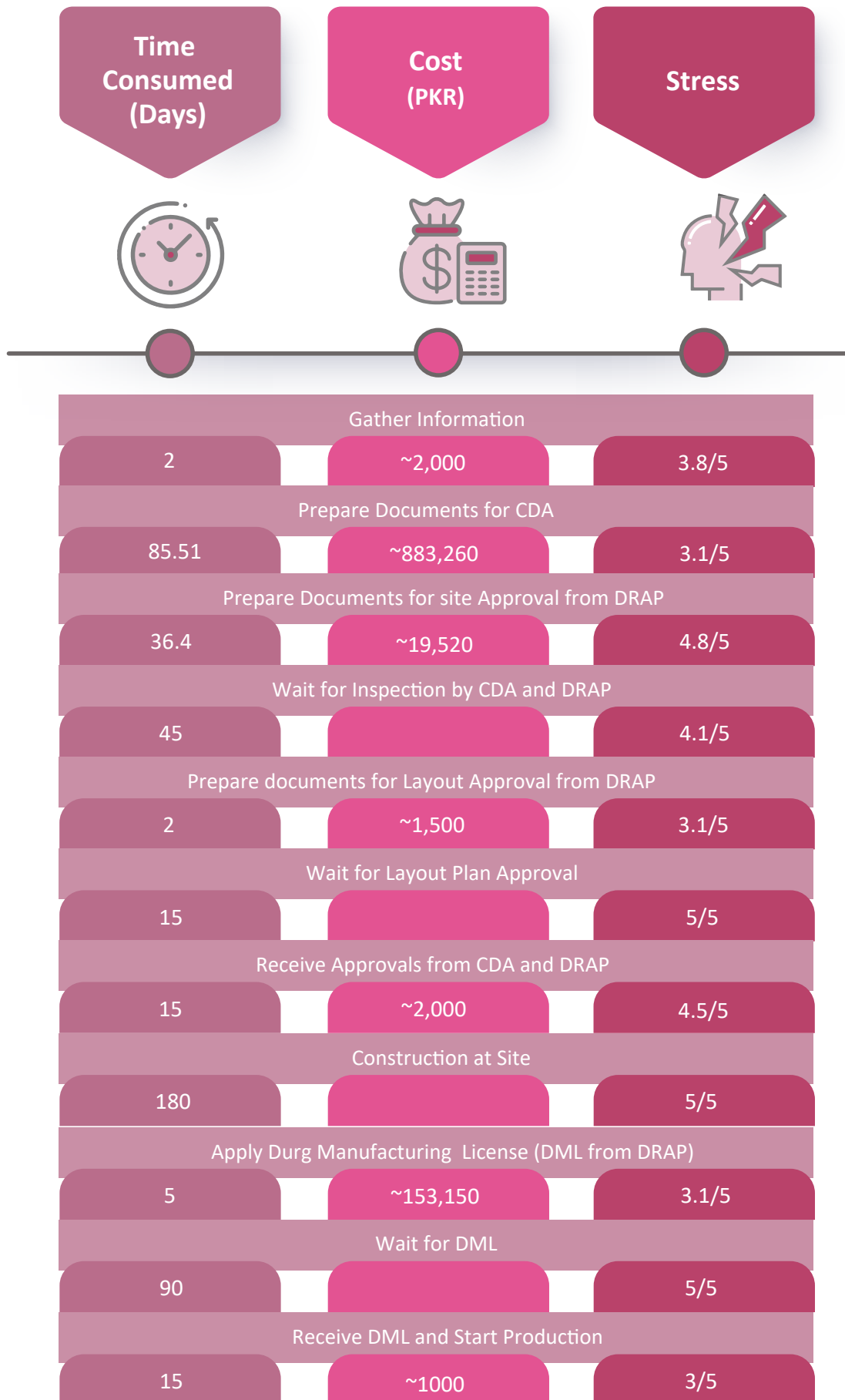
The process involves a moderate stress level (3.3/5).

The sludge involved in obtaining permission to set up a pharmaceutical unit costs the economy around 2.33% of GDP.



Based on the suggested recommendations the cost of sludge can be reduced by 12.0%.

CHART-2.1 (A) : SETTING-UP A PHARMACEUTICAL UNIT



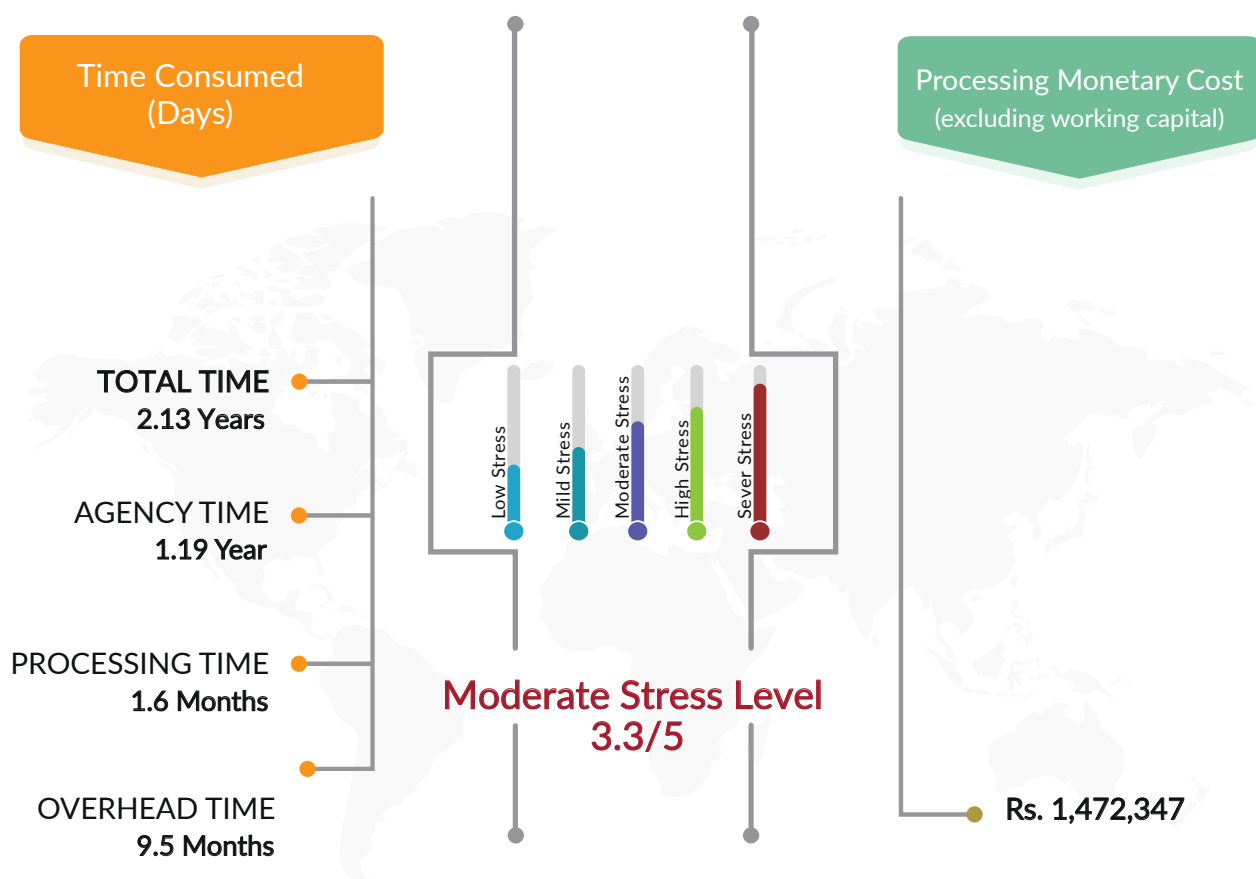
SOURCES OF THE SLUDGE

A major source of sludge comes from seeking approvals/licenses from DRAP thrice at three different stages, namely, approval of the site of pharma unit, approval of unit's physical layout, and the award of drug manufacturing license after the construction of the manufacturing unit has been completed. The three approvals are not processed together; imagine what would happen to the sponsor's investment if the DRAP declines to award the license after the construction has been completed.

To begin with, approval for the site where the pharma manufacturing unit is to be established must be sought from DRAP.

Next, an application is made to the CDA to grant a permit, which is granted after the inspection of the site by the CDA and DRAP.

After the award of permit, the layout plan of the unit is submitted to DRAP for approval. Upon completion of the construction, an application is submitted to DRAP for the award of a license to manufacture medicines.



Agency Time:

The time consumed by the department/agency concerned in processing an activity.

Overhead Time:

Part of the day lost due to being involved in this activity.

COST OF THE SLUDGE

01 Foregone Rental Value

One form of the indirect cost that falls on the shoulders of the businessman is that for one year his plot remains unutilized.

To capture this, we assume that the proposed site of the pharmaceutical unit could have been rented out as a parking place or a warehouse. We collected the data on parking plots available for rents from zameen.com and OLX.

Based on the average rental values of Rs.164,000 per Kanal and the prize of proposed site size of around 4 Kanal, this head account for 8.22% of the total project cost of a 4 Kanal plot.

We assumed that the total project cost is around Rs. 95 million.

02 Construction Cost Overruns

The delays in the construction on the site also cause the actual cost to go beyond the budgeted cost. The construction market has witnessed an increase of 10% per square foot of the cost of industrial construction.

Based on our assumed plot size, the cost of construction exceeded the budgeted cost by 16.63% of the estimated construction cost due to a delay of 1.5 years.

03 Cost of Personal Time

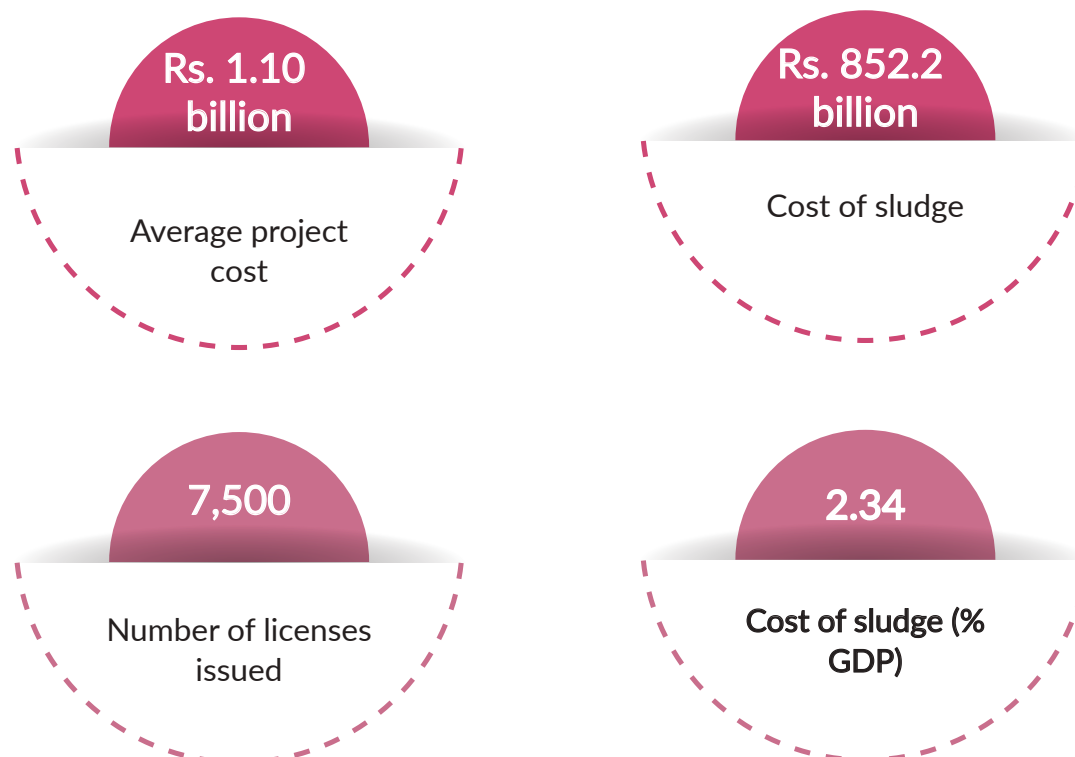
The opportunity cost of personal time involved in getting permissions and licenses for a pharmaceutical unit has been captured by assuming the average salary of the manager. We assume that the salary of the manager is around Rs. 250,000 per month. Using this, the cost of personal time is around 1.04% of the total project value.



Foregone Rental Income	8.22 % of Project Cost
Construction Cost Overruns	16.63 % of Construction Cost (1.07 % of project cost)
Cost of Personal Time	1.04 % of Project Cost

COST OF THE SLUDGE IN TERMS OF GDP

To assess the impact of the cost of regulation on the economy, we translate the cost of sludge in obtaining permission to set up a pharmaceutical unit (10.33% of project value) in terms of GDP. The task is performed by taking into consideration information about the average cost of setting up a pharmaceutical unit and the number of licenses issued by DRAP during the last year.



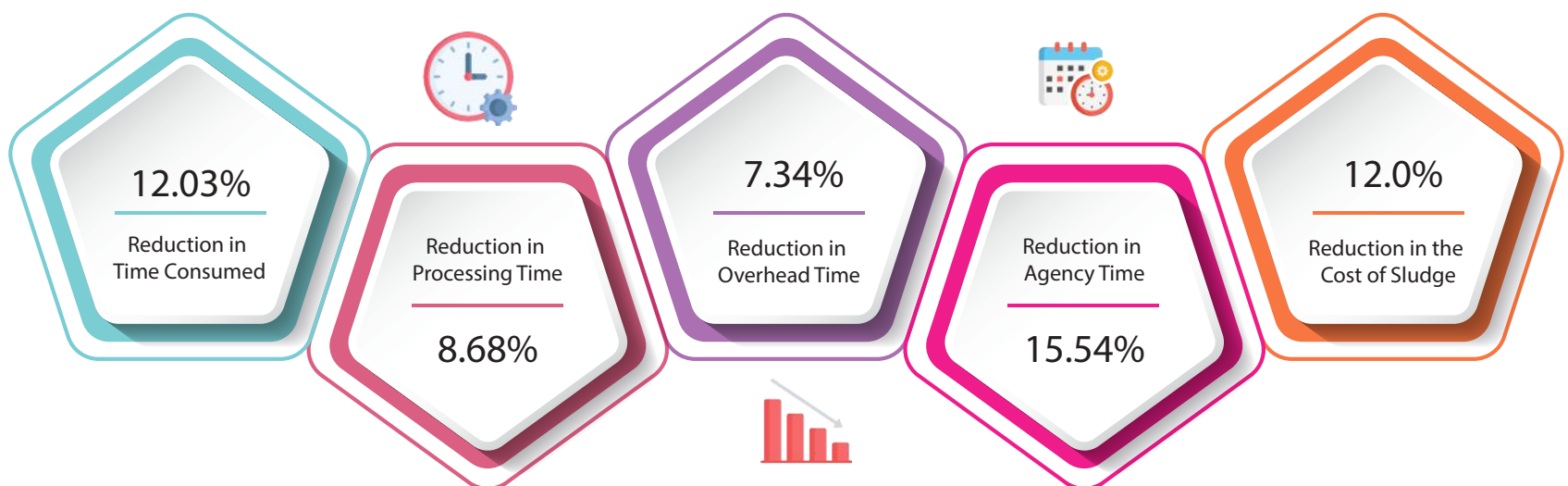
CUTTING THE SLUDGE

An ideal scenario to deal with three approvals required from DRAP would be that general guidelines for permissible sites and layout plants for pharma manufacturing units are listed by DRAP and handed over to local authorities (the CDA in this case) for implementation.

The building control authorities can ensure the fulfillment of these conditions while allowing the construction permit. The building control authorities can have a separate cell within the authority to handle matters specific to allowing the construction of pharma units. This would significantly cut down the sludge involved in seeking approvals from DRAP.

At a minimum clubbing together the three approvals that DRAP grants would cut down a significant sludge.

Cutting the Sludge: Reduction in Time Consumed and Cost Based on the Recommendations



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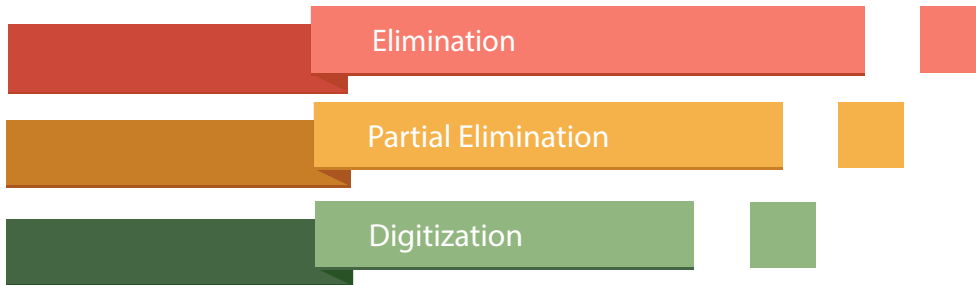


Table-2.1 (A) : Time involved in Setting-up a Pharmaceutical Unit

No	Step	Description					Overhead Time	Agency Time	
			Travel	Waiting	Transaction Process	Total			
1	Gathering Information	Visit CDA	45			45	960 (2 days)		
		Meet officials		30	30	60			
		Finish the day	45			45			
		Visit Drug Regulatory Authority (DRAP)	45			45			
		Meet officials		30	30	60			
		Finish the day	45			45			
2	Prepare Documents for CDA	Copy of allotment letter	45	10	5	60	14400 (1 month)	21600 (45 days)	
		Building Plan (6 copies)	Visit -Architect	45					45
			Brainstorming		30	360			390
			Finish the day	45					45
			Visit -2-Architect for plan	45					45
			Hire Architect		10	60			70
			Finish the day	45					45
			Design by Architect			14400			14400
			Visit -3 to collect building plan	45					45
			Meet the Architect		20	30			50
			Finish the day	45					45
		Soil Investigation Report	Visit consultant	45			45		960 (2 days)
			Hire Geopolitical consultant		30	120	150		
			Finish the day	45			45		
			Assessment of the area				0		

			Visit -2 consultant	45			45		
			Receive report		30	60	90		
			Finish the day	45			45		
		Vetting Consultant Certificate	Visit engineer	45			45	480 (1 day)	14400 (1 month)
			Receive report		30	180	210		
			Finish the day	45			45		
		Fire Fighting/Life - safety Certificate	Visit Architect	45			45	960 (2 days)	960 (2 days)
			Collect certificate		30	30	60		
			Finish the day	45			45		
		Possession Letter copy			10	10	20	960 (2 days)	
		Attested CNIC Copy	CNIC copy	45	5	10	60		
			Attestation	120	45	5	170		
		Indemnity Bond	Collect stamp paper		20	10	30		
			Print af fidavit	45	10	10	65		
			Witnesses' attestation	90	15	480	585		
			Notarize affidavit	90	10	10	110		
		Forms signed by architect, engineer, and owner	Visit CDA	45			45		
			Fill the form		30	30	60		
			Finish the day	45			45		
		Pay order	Visit National Bank	45			45		
			Pay order		60	15	75		
			Finish the day	45			45		
		Soundness and Stability Certificate	Visit Engineer	45			45	1440 (3 days)	
			Receiving report		30	240	270		
			Finish the day	45			45		
		NOC from sewerage division	Visit NCI Lalmasjid	45		45	90	960 (2 days)	3360 (7 days)
			Apply for NOC		60	240	300		
			Finish the day	45		45	90		
			Visit -2 NCI	45			45		
			Collect NOC		30	60	90		
			Finish the day	45			45		
3	Submit Application to CDA	Visit -2 CDA		45			45	480 (1 day)	
		Submit application			30	90	120		
		Finish the day		45			45		
4	Prepare Documents for DRAP for Site Verification and Layout	Application Form			20	5	25	1440 (3 days)	
		Submit online fee challan				45	45		
		Layout plan details		90	45	60	195		
		Copy of SECP registration certificate				5	5		
		Sector-wise equipment and machinery plan				60	60		

5		Details of staff in charge of Different manufacturing and quality control activities	Hire the staff	180		960	1140	14400 (1 month)	
			Get documents	90		60	150		
	Submit Application to DRAP for Site Verification	Visit -2 DRAP	45			45	480 (1 day)		
	Submit application		60	60	120				
	Finish the day	45			45				
6	Wait for Inspection by DRAP Team for Site Approval								7200 (15 days)
7	Site Inspection by DRAP for approval	Visit Site	45			45	480 (1 day)		
		Assist inspection		60	180	240			
		Finish the day	45			45			
8	Wait for Site Approval from DRAP						0		3360 (7 days)
9	Submit Layout Plan to DRAP	Receive site approval				0	7200 (15 days)		
		Address concerns	90	30	180	300			
		Furnish layout plan accordingly				0			
		Visit -3 DRAP	45			45			
		Submit layout plan		30	30	60			
		Finish the day	45			45			
10	Wait for construction approval from DRAP								14400 (1 month)
11	Receive construction approval from DRAP								
12	Visit -2 CDA	Visit CDA	45	30	60	135	480 (1 day)		
		Pursue Application		30	240	270			
		Finish the day	45		40	85			
13	Account Section Clearance	Visit -3 C DA	45			45	960 (2 days)	12000 (25 days)	
		Pursue Application		30	60	90			
		Finishing the day	45			45			
		Visit -4 CDA	45			45			
		NOC from EM1DTE to one window		30	240	270			
14	Building Inspector visit	Visit -5 CDA	45			45	480 (1 day)		
		Pursue the Application so that it may forward to the building inspector		30	120	150			
		Finish the day	45		45	90			
15	Report Submission								14400 (1 month)
16	Visit -6 CDA	Visit CDA	45			45	480 (1 day)	7200 (15 days)	
		Collect approval certificate		30	45	75			
		Finish the day	45			45			

17	Construction at the Site						86,400 (6 months)	
18	Prepare Document for Drug Manufacturing License (DML) from DRAP	Application Form	90	20	5	115	1440 (3 days)	
		Submit online fee challan		10	20	30		
		Layout plan details			10	10		
		Copy of SECP registration certificate			10	10		
		Sector-wise equipment and machinery plan		90	60	150		
		Details of staff in charge of different manufacturing and quality control activities		120	45	165		
		Copy of Degree/Diploma		45	10	55		
19	Submit Application to DRAP for DML	Visit -4 DRAP	45		50	95	480 (1 day)	
		Submit application		30	20	50		
		Finish the day	45		30	75		
20	Wait for Inspection for DML					0		14400 (1 month)
21	Inspection by DRAP	Visit the Unit	45			45	480 (1 day)	
		Inspection		60	180	240		
		Finish the day	45			45		
22	Report submitted to Central Licensing Board (CLB) by Inspection Team					0		7200 (15 days)
23	Wait for the CLB meeting					0		21,600 (45 days)
24	Approval of DML	Visit -5 DRAP	45			45	480 (1 day)	
		Submit application		30	20	50		
		Finish the day	45			45		
25	Start Production					0		
Total time (days)						50.0	286	431
Aggregate Time (Months)							25.56	

Table-2.1 (B) : Monetary Cost of Setting-up a Pharmaceutical Unit (excluding capital investment)

No	Step	Description	Cost (PKR)			Opportunity Cost	
			Travel	Fee	Total		
1	Gather Information	Visit CDA	500		500	750	
		Meet officials			0	1000	
		Finish the day	500		500	750	
		Visit Drug Regulatory Authority (DRAP)	500		500	750	
		Meet officials			0	1000	
		Finish the day	500		500	750	
2	Prepare Documents for CDA	Copy of allotment letter	500	50	550	1000	
		Building Plan (6 copies)	Visit -Architect	500		500	750
			Brainstorming			0	6500
			Finish the day	500		500	750
			Visit -2-Architect for plan	500		500	750
			Hire Architect		500000	500000	1166
			Finish the day	500		500	750
			Design by Architect			0	240000
			Visit -3 to collect building plan	500		500	750
			Meet the Architect			0	833
		Finish the day	500		500	750	
		Soil Investigation Report	Visit consultant	500		500	750
			Hire Geopolitical consultant		100000	100000	2500
			Finish the day	500		500	750
			Assessment of the area			0	
			Visit -2 consultant	500		500	750
			Receive report			0	1500
		Vetting Consultant Certificate	Finish the day	500		500	750
			Visit engineer	500		500	750
			Receive report		10000	10000	3500
		Fire Fighting/Life-safety Certificate	Finish the day	500		500	750
			Visit Architect	500		500	750
			Collect certificate		5000	5000	1000
		Possession Letter copy	Finish the day	500		500	750
			Attested CNIC Copy	500	50	550	333
			CNIC copy	500	10	510	1000
		Indemnity Bond	Attestation	1000		1000	2833
			Collect stamp paper		200	200	500
			Print affidavit	500	250	750	1083
			Witnesses' attestation	1000		1000	9750
		Forms signed by architect, engineer, and owner	Notarize affidavit	1000	200	1200	1833
			Visit CDA	500		500	750
			Fill the form			0	1000
Finish the day	500			500	750		

		Pay order	Visit National Bank	500		500	750	
			Pay order		25000 0	25000 0	1250	
			Finish the day	500		500	750	
		Soundness and Stability Certificate	Visit Engineer	500		500	750	
			Receiving report			0	4500	
			Finish the day	500		500	750	
		NOC from sewerage division	Visit NCI Lalmasjid	500		500	1500	
			Apply for NOC		500	500	5000	
			Finish the day	500		500	1500	
			Visit -2 NCI	500		500	750	
			Collect NOC			0	1500	
			Finish the day	500		500	750	
3	Submit Application to CDA	Visit -2 CDA		500		500	750	
		Submit application				0	2000	
		Finish the day		500		500	750	
4	Prepare Documents for DRAP for Site Verification and Layout	Application Form			20	20	416	
		Submit online fee challan			15000	15000	750	
		Layout plan details			1000	1000	3250	
		Copy of SECP registration certificate		1000		1000	83	
		Sector-wise equipment and machinery plan		1000		1000	1000	
		Details of staff in charge of different manufacturing and quality control activities		Hire the staff	500		500	19000
				Get documentation	500		500	2500
5	Submit Application to DRAP for Site Verification	Visit -2 DRAP		500		500	750	
		Submit application				0	2000	
		Finish the day		500		500	750	
6	Wait for Inspection by DRAP Team for Site Approval					0		
7	Site Inspection by DRAP for approval	Visit Site		500		500	750	
		Assist inspection				0	4000	
		Finish the day		500		500	750	
8	Wait for Site Approval from DRAP					0		
9	Submit Layout Plan to DRAP	Receive site approval				0		
		Address concerns				0	5000	
		Furnish layout plan accordingly			500	500		
		Visit -3 DRAP		500		500	750	
		Submit layout plan				0	1000	
		Finish the day		500		500	750	
10	Wait for construction approval from DRAP					0		
11	Receive construction approval from DRAP					0		
12	Visit -2 CDA	Visit CDA		500		500	2250	
		Pursue Application				0	4500	
		Finish the day		500		500	1416	
13	Account Section Clearance	Visit -3 CDA		500		500	750	
		Pursue Application				0	1500	
		Finishing the day		500		500	750	
		Visit -4 CDA		500		500	750	
		NOC from EM1DTE to one window				0	4500	
14	Building Inspector visit	Visit -5 CDA		500		500	750	
		Pursue the Application so that it may forward to the building inspector				0	2500	
		Finish the day		500		500	1500	

15	Report Submission				0	
16	Visit -6 CDA	Visit CDA	500		500	750
		Collect approval certificate			0	1250
		Finish the day	500		500	750
17	Construction at the Site				0	
18	Prepare Document for Drug Manufacturing	Application Form		20	20	1916
18	Prepare Document for Drug Manufacturing License (DML) from DRAP	Application Form		20	20	1916
		Submit online fee challan		150,000	150,000	500
		Layout plan details		1000	1000	166
		Copy of SECP registration certificate		10	10	166
		Sector -wise equipment and machinery plan		500	500	2500
		Details of staff in charge of different manufacturing and quality control activities		20	20	2750
		Copy of Degree/Diploma		100	100	916
19	Submit Application to DRAP for DML	Visit -4 DRAP	500		500	1583
		Submit application			0	833
		Finish the day	500		500	1250
20	Wait for Inspection for DML				0	
21	Inspection by DRAP	Visit the Unit	500		500	750
		Inspection			0	4000
		Finish the day	500		500	750
22	Report submitted to Central Licensing Board (CLB) by Inspection Team				0	
23	Wait for the CLB meeting				0	
24	Approval of DML	Visit -5 DRAP	500		500	750
		Submit application			0	833
		Finish the day	500		500	750
25	Start Production				0	
Total					1,067,930	404,417
Aggregate Monetary Cost					1,472,347	

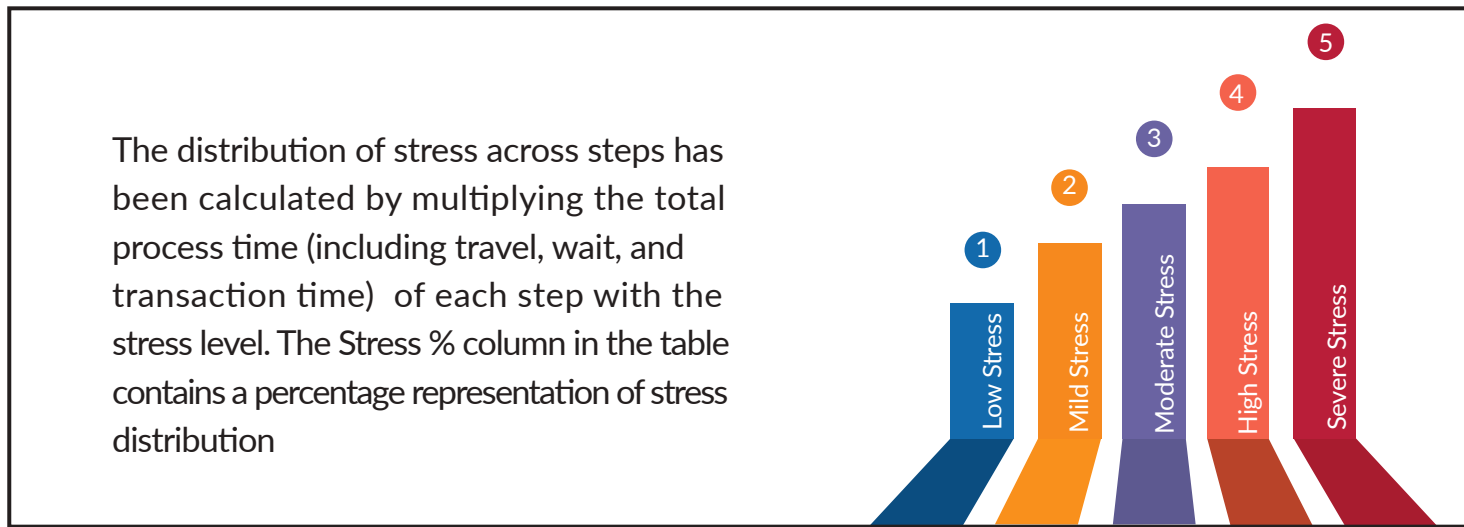


Table-2.1 (C) : Stress Level Involved in Setting-Up a Pharmaceutical Unit

No	Step	Description	Stress Level	Stress %		
1	Gather Information	Visit CDA	2	0.09		
		Meet officials	5	0.31		
		Finish the day	2	0.09		
		Visit Drug Regulatory Authority (DRAP)	2	0.09		
		Meet officials	4	0.25		
		Finish the day	2	0.09		
2	Prepare Documents for CDA	Copy of allotment letter	2	0.12		
		Building Plan (6 copies)	Visit -Architect	2	0.09	
			Brainstorming	5	2.01	
			Finish the day	2	0.09	
			Visit -2-Architect for plan	2	0.09	
			Hire Architect	5	0.36	
			Finish the day	2	0.09	
			Design by Architect	4	9.50	
			Visit -3 to collect building plan	2	0.09	
			Meet the Architect	5	0.26	
			Finish the day	2	0.09	
		Soil Investigation Report	Visit consultant	2	0.09	
			Hire Geopolitical consultant	5	0.77	
			Finish the day	2	0.09	
			Assessment of the area	5	0.00	
			Visit -2 consultant t	2	0.09	
			Receive report	4	0.37	
		Vetting Consultant Certificate	Finish the day	2	0.09	
			Fire Fighting/Life -safety Certificate	Visit engineer	2	0.09
				Receive report	4	0.87
				Finish the day	2	0.09
			Fire Fighting/Life -safety Certificate	Visit Architect	2	0.09
				Collect certificate	5	0.31
Finish the day	2	0.09				

		Possession Letter copy		4	0.08	
	Attested CNIC Copy	CNIC copy		3	0.19	
		Attestation		5	0.88	
	Indemnity Bond	Collect stamp paper		3	0.09	
		Print affidavit		4	0.27	
		Witnesses' attestation		5	3.02	
		Notarize affidavit		3	0.34	
	Forms signed by architect, engineer, and owner	Visit CDA		2	0.09	
		Fill the form		5	0.31	
		Finish the day		2	0.09	
	Pay order	Visit National Bank		2	0.09	
		Pay order		5	0.39	
		Finish the day		2	0.09	
	Soundness and Stability Certificate	Visit Engineer		2	0.09	
		Receiving report		5	1.39	
		Finish the day		2	0.09	
	NOC from sewerage division	Visit NCI Lalmasjid		3	0.28	
		Apply for NOC		5	1.55	
		Finish the day		2	0.19	
		Visit -2 NCI		2	0.09	
		Collect NOC		3	0.28	
		Finish the day		2	0.09	
3	Submit Application to CDA	Visit -2 CDA		2	0.09	
		Submit application		5	0.62	
		Finish the day		2	0.09	
4	Prepare Documents for DRAP for Site Verification and Layout	Application Form		5	0.13	
		Submit online fee challan		5	0.23	
		Layout plan details		5	1.01	
		Copy of SECP registration certificate		4	0.02	
		Sector-wise equipment and machinery plan		5	0.31	
		Details of staff in charge of different manufacturing and quality control activities	Hire the staff		5	5.89
			Get documentation		5	0.77
5	Submit Application to DRAP for Site Verification	Visit -2 DRAP		2	0.09	
		Submit application		5	0.62	
		Finish the day		2	0.09	
6	Wait for Inspection by DRAP Team for Site Approval			5	0.00	
7	Site Inspection by DRAP for approval	Visit Site		2	0.09	
		Assist inspection		5	1.24	
		Finish the day		2	0.09	
8	Wait for Site Approval from DRAP			5	0.00	
9	Submit Layout Plan to DRAP	Receive site approval		2	0.00	
		Address concerns		5	1.55	
		Furnish layout plan accordingly		5	0.00	
		Visit -3 DRAP		2	0.09	
		Submit layout plan		4	0.25	
		Finish the day		2	0.09	
10	Wait for construction approval from DRAP			5	0.00	
11	Receive construction approval from DRAP			2	0.00	

12	Visit -2 CDA	Visit CDA	2	0.28
		Pursue Application	5	0.39
		Finish the day	2	0.18
13	Account Section Clearance	Visit -3 CDA	2	0.09
		Pursue Application	5	0.46
		Finishing the day	5	0.23
		Visit -4 CDA	2	0.09
		NOC from EM1DTE to one window	5	1.39
14	Building Inspector visit	Visit -5 CDA	2	0.09
		Pursue the Application so that it may forward to the building inspector	5	0.77
		Finish the day	2	0.19
15	Report Submission		4	0.00
16	Visit -6 CDA	Visit CDA	2	0.09
		Collect approval certificate	5	0.39
		Finish the day	2	0.09
17	Construction at the Site		5	0.00
18	Prepare Document for Drug Manufacturing	Application Form	5	0.59
18	Prepare Document for Drug Manufacturing License (DML) from DRAP	Application Form	5	0.15
		Submit online fee challan	5	0.15
		Layout plan details	4	0.04
		Copy of SECP registration certificate	2	0.02
		Sector-wise equipment and machinery plan	2	0.31
		Details of staff in charge of different manufacturing and quality control activities	2	0.34
		Copy of Degree/Diploma	2	0.11
19	Submit Application to DRAP for DML	Visit -4 DRAP	2	0.20
		Submit application	5	0.26
		Finish the day	2	0.15
20	Wait for Inspection for DML		5	0.00
21	Inspection by DRAP	Visit the Unit	2	0.09
		Inspection	5	1.24
		Finish the day	2	0.09
22	Report submitted to Central Licensing Board (CLB) by Inspection Team		5	0.00
23	Wait for the CLB meeting		5	0.00
24	Approval of DML	Visit -5 DRAP	2	0.09
		Submit application	5	0.26
		Finish the day	2	0.09
25	Start Production			0.00



2.2

SETTING-UP A PRIVATE HOSPITAL

The registration process of a private hospital in Islamabad involves two Authorities

1. Islamabad Healthcare Regulatory Authority (IHRA)

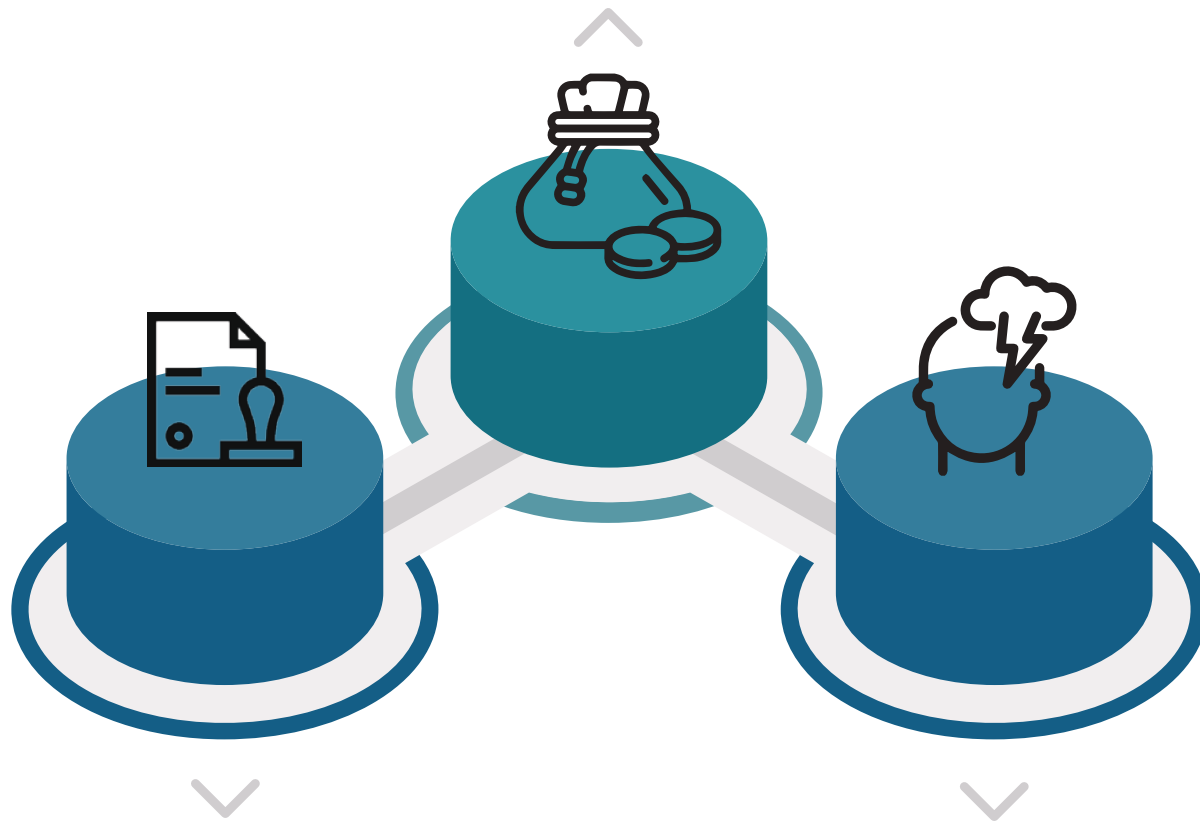
It is mandatory for all healthcare service providers to apply for registration and license under Section 14(1) of the Islamabad Healthcare Regulations Act (2018). The licensing authority is the Islamabad Healthcare Regulatory Authority.

2. District Health Office Islamabad (DHO)

The District Health Office, Ministry of National Health Services Regulations and Coordination Islamabad, is authorized to register the hospitals pharmacy.



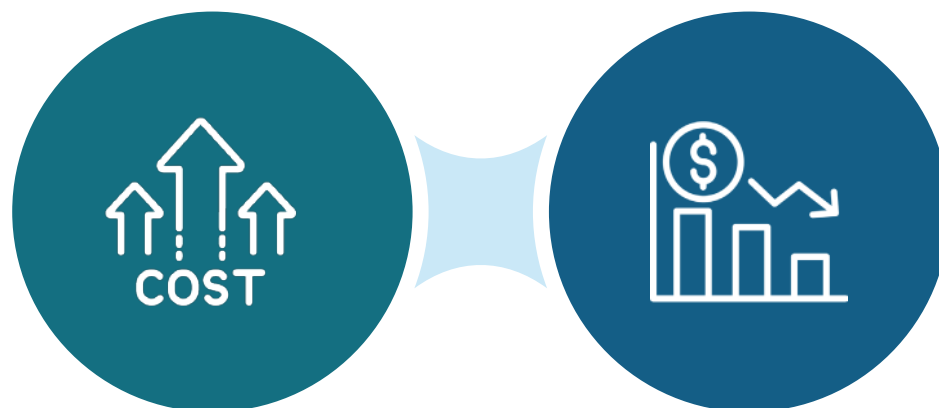
The cost of sludge involved in obtaining permission to set up a private hospital can be up to 50% of the total investment.



The process of obtaining permission to set up a private hospital consumes around 8.5 months.

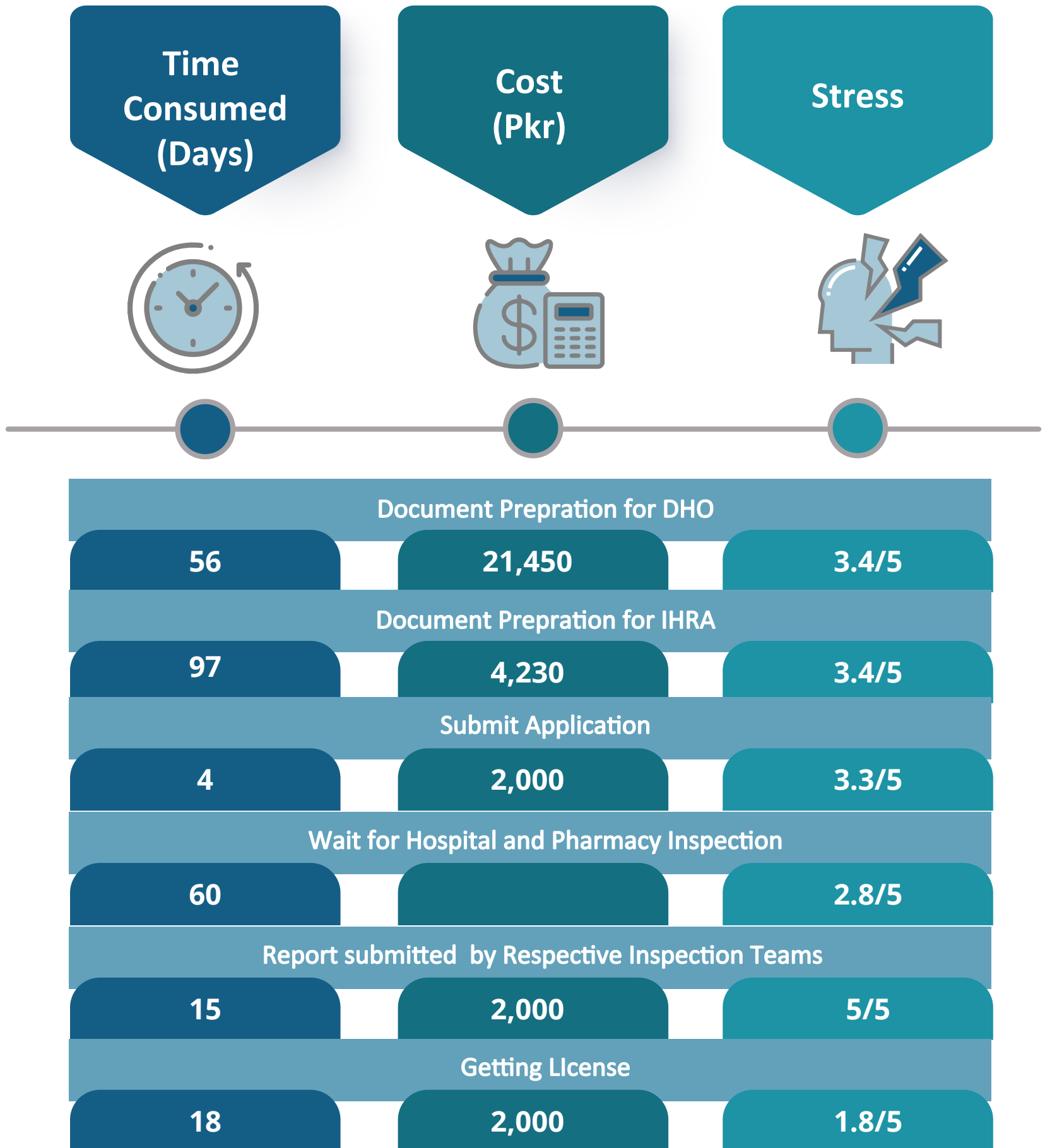
The process involves a moderate stress level (3.2/5)

The sludge involved in obtaining permission to set up a pharmaceutical unit costs the economy around 0.10% of GDP.



Based on the suggested recommendations, the cost of sludge can be reduced by 12.5%.


CHART-2.2 (A): PRIVATE HOSPITAL ESTABLISHMENT PROCEDURE



SOURCES OF THE SLUDGE

Major sludge in establishing a hospital comes from the following sources:


- 1 Securing certificate from Pakistan Chemists' and Druggists' Association (PCDA).
- 2 Securing registration with Pakistan Nursing Council (PNC).
- 3 Waiting for inspection by the District Health Office (DHO) and Islamabad Healthcare Regulatory Authority (IHRA).



1

PCDA certificate

To establish a hospital, NOC from the PCDA is required. The issuance of NOC by the PCDA in turn requires that the applicant should have a National Tax Number (NTN), a bank account, and an attested copy of his/her matriculation certificate.



2

Bank Account

Opening a bank account takes around 15 days



3

Matriculation Certificate

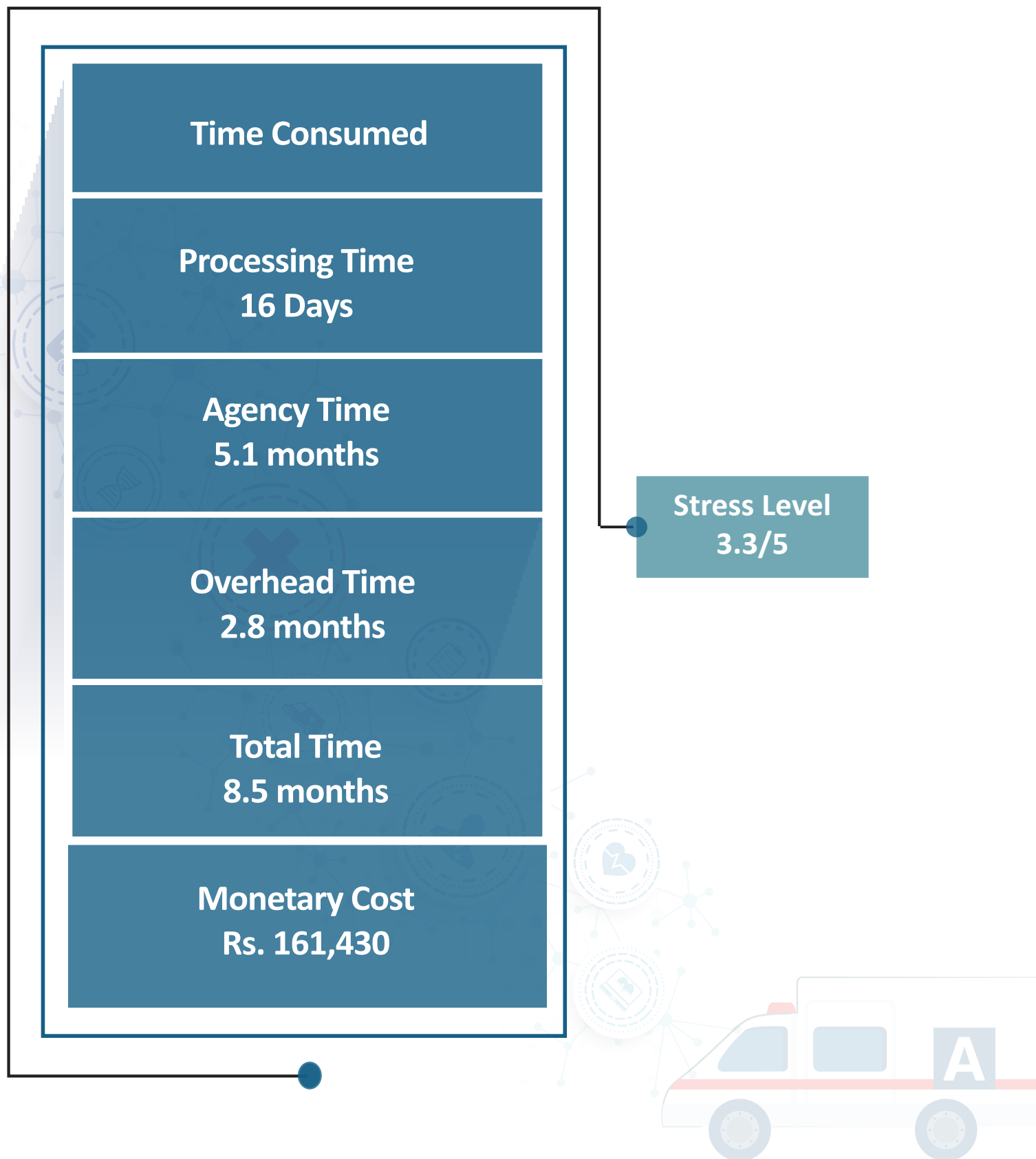
The matriculation certificate (of the applicant/owner of the hospital) must be attested by the concerned matriculation board

The hospital must be registered with the Health Registration Authority. To seek registration, the documents that must be submitted to the IHRA include Building Plan, Affidavit, Copy of Degree/Diploma, and so on.



Inspection by DHO and IHRA

Before the approval is granted, the hospital is inspected by the DHO and IHRA. This can take around two months after applying for registration.



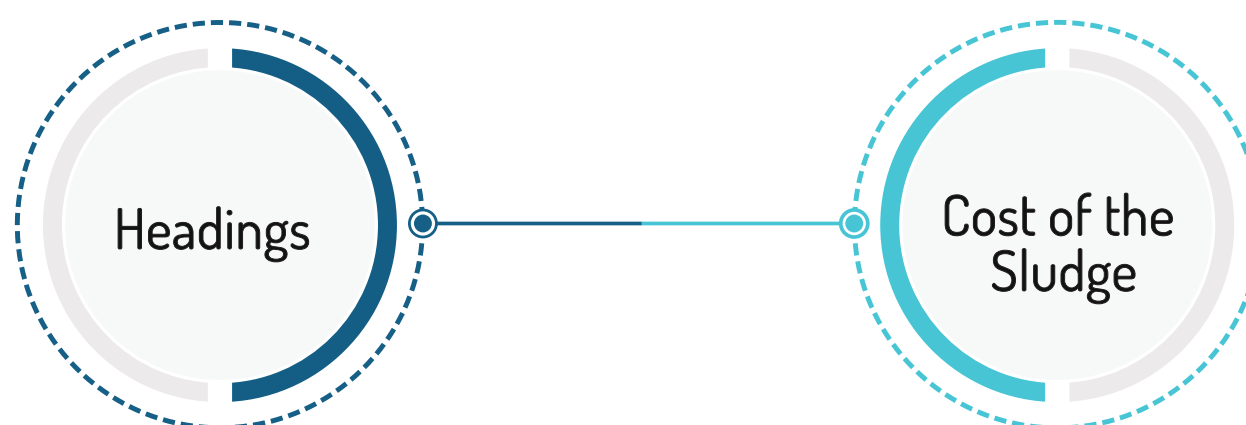
Agency Time

The time consumed by the department/agency concerned in processing an activity.

Overhead Time

Part of the day lost due to being involved in this activity.

COST OF THE SLUDGE



Human Resource Cost	24.68% of the total investment
Building Rental Cost	14.18% of the total investment
Insurance Payment	1.91% of the total investment
Foregone Earnings	70.83% of average annual earnings

To measure the indirect cost of the sludge involved in the permissions to establish a private hospital, we focused on the following aspects.

1. HUMAN RESOURCE COST

The application submitted to the IHRA requires the list of doctors, nurses, and other human resources that have been hired by the hospital. Therefore, even while waiting for approval and registration from the hospital, the staff members remain on the payroll of the hospital. The human resource wage bill accounts for 34.82% of the total annual expenditures in establishing and running a hospital (see table below for details).

Description		% of Total Investment
Operational Cost		90.85
	HR Cost	34.82
	Machinery and Equipment	21.63
	Building Rent	20.02
	Furniture and Fixture	12.36
	Vehicles	2.00
Allied Cost		9.15
	Minimum Cash Required	0.83
	Raw Material Purchase	5.36
	Insurance Payment	2.70
	Machine Maintenance	0.25

The information presented in the table is based on the survey of private hospitals conducted in Islamabad. The 8.5 months delay in obtaining permission translates into 24.69% of total investment as HR cost¹.

2. RENTAL COST

We assume that the building where the hospital is to be established is a rented building. While waiting for permission, the rental cost has to be borne by the owner of the hospital, which accounts for 14.18% of the total investment involved in establishing the hospital.

3. INSURANCE EXPENDITURE

Similarly, the insurance plan that the owner must purchase does not depend upon the permission and launch of the hospital. The owner has to pay the insurance premium even if the hospital remains non-operational during the waiting period. This head cost accounts for around 1.91% of the total investment.

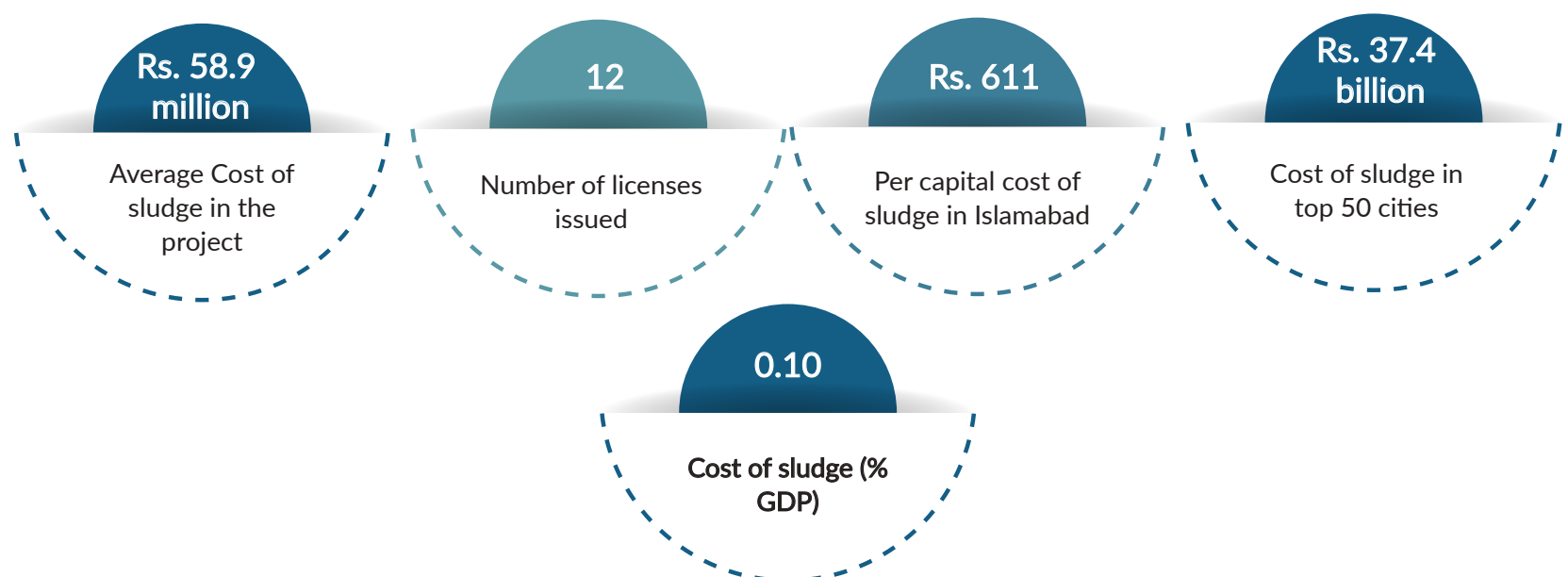
The three types of indirect costs- cost of human resources, rental expenditure, and insurance premium together account for around 40.77% of the project- all this is due to a delay of 8.5 months in granting permissions.

4. FOREGONE EARNINGS

Another indirect cost of the sludge in obtaining permissions is in the form of foregone earnings. Since the hospital remains non-operational for 8.5 months due to sludge, hence the realization of earnings is also delayed for this same period. These foregone earnings are around 70.83% of the total annual revenues of the hospital.

COST OF SLUDGE IN TERMS OF GDP

To assess the impact of the cost of regulation on the economy, we translate the cost of sludge in obtaining permission to set up a private hospital (49.1% of project value) in terms of GDP. The task is performed based on the following information: (i) average project cost, (ii) number of licenses issued during last year, and (iii) population in the top 50 cities of Pakistan.

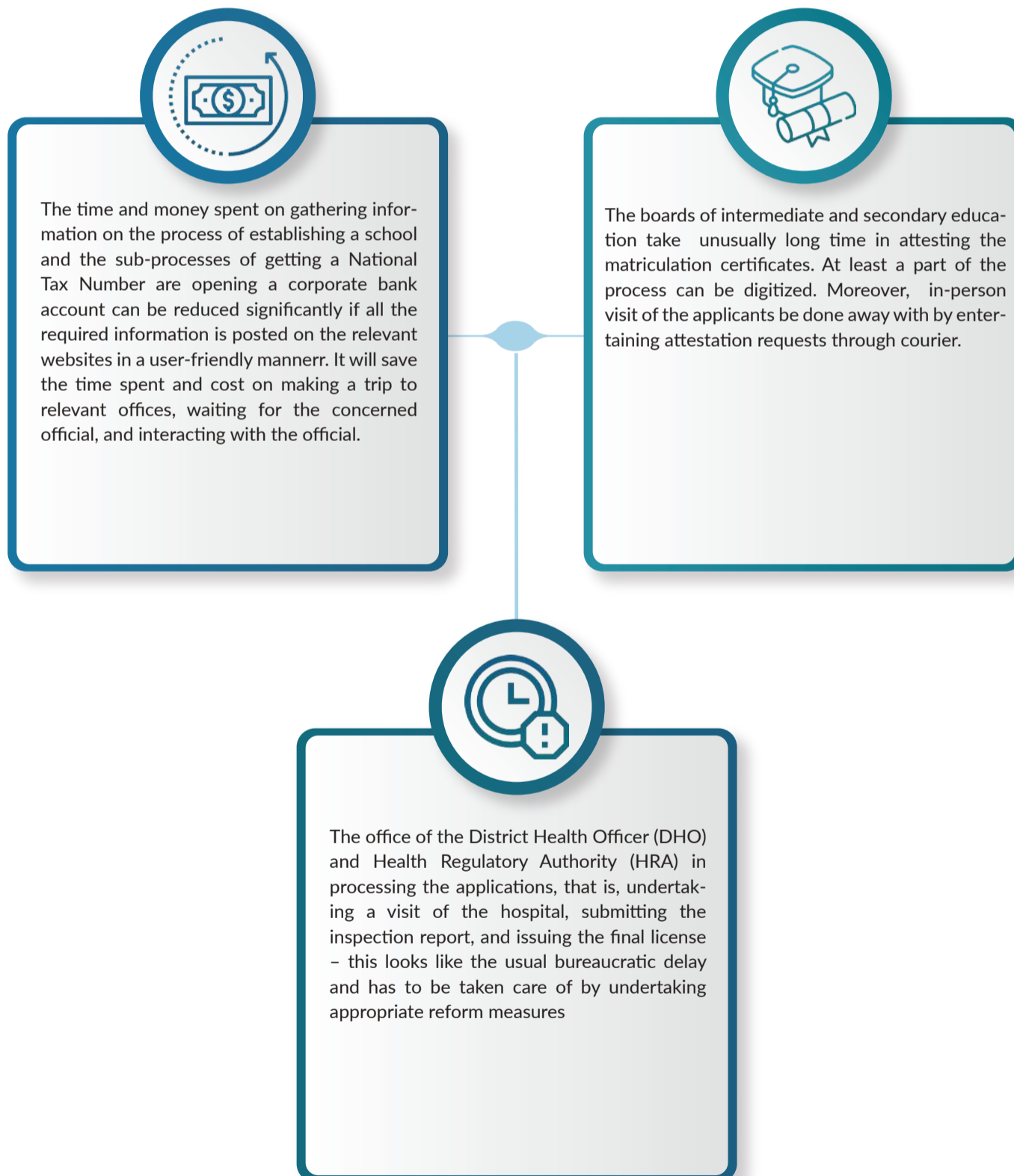


⁵ See page 132 for details.

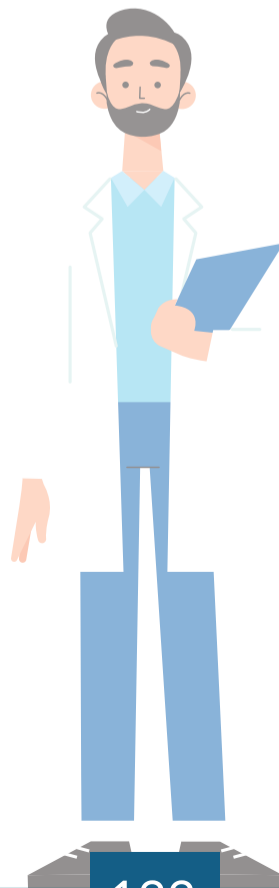
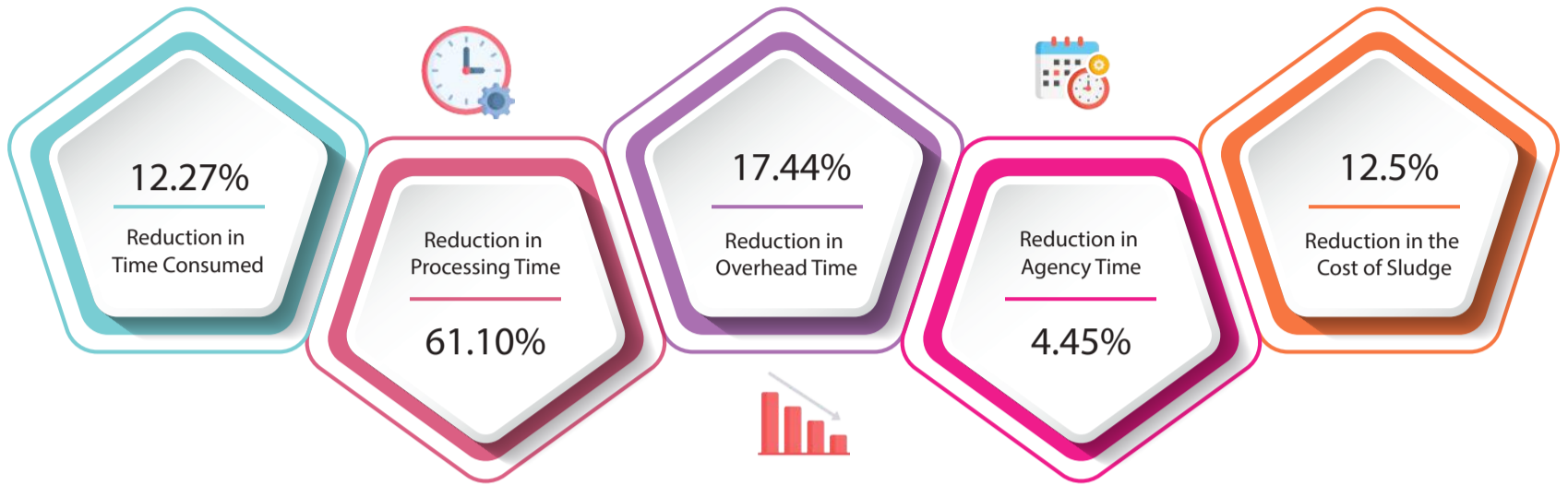
CUTTING THE SLUDGE

STEPS THAT CAN BE ELIMINATED:

The affidavit requirement of the applications submitted at the DHO, IHRA, and PCDA can be done away with by simply incorporating the required undertakings into one of the clauses of the application form and taking the consent of the applicant.



Cutting the Sludge: Reduction in Time Consumed and Cost Based on the Recommendations



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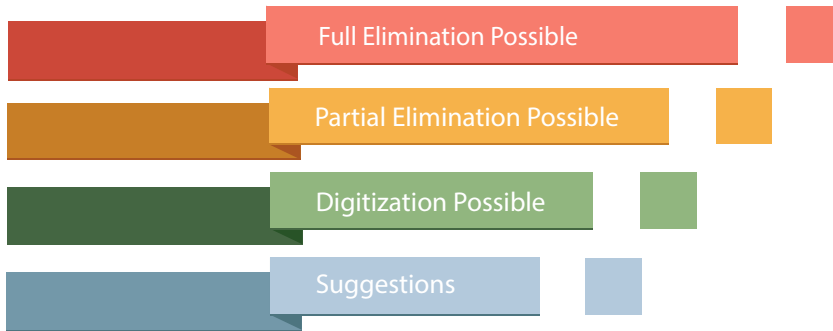


Table-2.2 (A) : Time Consumed in Establishing a Private Hospital

No	Steps	Description	Time (Minutes)				Overhead Time	Agency Time			
			Travel	Waiting	Transaction/Process	Total					
1	Information Gathering	Visit the Health Regulatory Authority	45			45	960	14400			
		Meet officials to gather information on the process of establishing hospital		30	60	90					
		Finish the day	45			45					
		Visit District Health Officer	45			45					
		Meet officials to gather information		30	60	90					
		Finish the day	45			45					
2	Prepare Documents required by DHO	CNIC copy	20	5	10	35	480	7200			
		Affidavit	Collect stamp paper	10	20	10			40		
			Print affidavit		10	10			20		
			Notarize affidavit		10	10			20		
		Photo	Visit photo studio	90	60	10	160		480		
			Attestation	120	45	5	170				
		PCDA certificate	Opening Bank Account	Gather Information	90	30	60		180	9600	
				Obtaining NTN	Apply to FBR				30		30
					Get NTN				10		10
				Opening Bank Account	Gather information on opening bank account	45					45
					CNIC copy	20	5		10		35
					Business stamp	90	30		60		180
					Utility bill copy				10		10
					NTN copy				30		30
					Visit bank	45					45
					Fill the form		30				30
					Apply for bank account		15		30		45
					Finish the day	45					45
					Verification by bank				30		30
		Account opened			10	10					
Affidavit	Collect stamp paper	10	20	10	40	480					
	Print affidavit		10	10	20						
	witnesses sign	90	15	480	585						
	Notarize affidavit		10	10	20						

3	Prepare Documents for HRA	Hospital Registration	Photo	Visit photo studio	90	60	10	160	7200	28800		
				Attestation	120	45	5	170				
			Attested copy of Matriculation	Copy degree	20	10	5	35	7200	28800		
				Visit concerned board	45			45				
				Submit documents		150	30	180				
				Finish the day	45			45				
				Visit-2 to board	45			45				
				Collect attested Certificate		60	30	90				
				Finishing the day	45			45				
			Online appointment with IBCC (Intra Board Chairman Committee)		15	30	45	7200	28800			
			Visit National Bank for Challan	90	15	60	165					
			Visit IBCC	45	15	60	120					
			Finish the day	45			45					
			Domicile copy	Visit National Bank for Challan	90	60	30			180	4800	3360
				Document preparation		120	120			240		
				Visit citizen facilitation center	45					45		
				data entry/ challan submission		60	60	120				
				Obtaining e-receipt		60	60	120				
				Finish the day	45			45				
				Revisit to collect domicile	90	15	10	115				
			Fee submission	90	45	15	150	9600	4800			
			Application Submission			30	30					
			Check the status			30	30					
			Collect Certificate			30	30					
			Copy of D pharmacy degree	45		45	90	480				
			FBR NTN			10	10					
			Premises Specification and Location Plan			30	30					
3	Prepare Documents for HRA	Hospital Registration	Building Plan	45		45	90	480	43200	14400		
			Copy of CNIC	45	5	10	60	480				
			Affidavit	Collect stamp paper	45	10	20				75	
				Print affidavit		10	10				20	
				Notarize affidavit	30	20	10				60	
			Copy of Degree/Diploma	45	10	10	65	43200			14400	
			Copy of updated registration with relevant council, PNC(Pakistan Nursing council)	Challan Form	45	10	30					85
				Photo	45	10	10					65
				CNIC copy	45	10	45					100
				Copy of all diploma/ Degrees	200	45	45					290
				Attested copy of matric certificate	40	5	30					75
				Attested copy of domicile certificate	45	10	45					100
				Finish the day	90	30	45	165				
			HCE (Health care Equipment) and machinery list	0		0	0	240			28800	
Hiring Doctors	45	10	20	75								
Finishing the day	45	15	45	105								
		Visit-2: DHO	45	50	95	190	480					

4	Documents Submission at DHO office	Submit application	45	20	65	130		
		Finishing the day	45	30	45	120		
5	Documents Submission at HRA	Visit 2: Health Regulation Authority	45	10	45	100	480	
		Submit Application with required documents	45	30	45	120		
		Finish the day	45	30	20	95		
6	Wait for Inspection				0		28800	
7	Inspection by DHO (pharmacy)	Drug inspector's visit	0			0	480	
		Inspection	0		180	180		
		Finish the day	0		0	0		
8	Inspection by HRA(Hospital)	HRA team's visit	0		0	0	480	
		Inspection	0		180	180		
		Finish the day			0	0		
9	Report submitted by inspection team of DHO		0		0		7200	
10	Report submitted by inspection team of HRA		0		0			
11	Getting License	Visit-3 DHO	30	45	45	120	960	7200
		Collect license	45	45	30	120		
		Finish the day	45	10	30	85		
		Visit-3 HRA	45		45	90		
		Collect license	0		0	0		
		Finish the day	45	10	30	85		
Total (Days)						16.5	235	242



Table-2.2 (B) : Monetary and Opportunity Cost of Establishing a private hospital

No	Steps	Description	Cost (PKR)			Opportunity Cost			
			Travel	Fee	Total				
1	Information Gathering	Visit the Health Regulatory Authority	500		500	151.5			
		Meet officials to gather information on the process of establishing hospital			0	303			
		Finish the day	500		500	151.5			
		Visit District Health Officer			500	151.5			
		Meet officials to gather information	500		0	303			
		Finish the day	500		500	151.5			
2	Prepare Documents required by DHO	CNIC copy			0	117.8			
		Affidavit	Collect stamp paper	500		500	134.7		
			Print affidavit		100	100	67.3		
			Notarize affidavit	500		0	67.3		
		Photo	Visit photo studio		50	550	538.7		
			Attestation			500	572.3		
			Gather Information	500		500	151.5		
		Obtaining NTN	Apply to FBR	500		500	606		
			Get NTN	0		0	101		
		Opening Bank Account	Gather information on opening bank account	500		0	33.7		
			CNIC copy			500	151.5		
			Business stamp		10	510	117.8		
			Utility bill copy	500	1000	1500	606		
			NTN copy	500	10	10	33.7		
			Visit bank	500	10	10	101		
			Fill the form			500	151.5		
			Apply for bank account			0	101		
			Finish the day	500		0	151.5		
			Verification by bank			500	151.5		
			Account opened			0	101		
			PCDA certificate	Affidavit	Collect stamp paper	500		0	33.7
					Print affidavit		150	650	134.7
		Witnesses sign				100	100	67.3	
		Notarize affidavit		500		0	1969.5		
		Photo	Visit photo studio		200	200	67.3		
			Attestation		500	1500	538.7		
		Attested copy of Matriculation	Copy degree			0	572.3		
			Visit concerned board	1000	10	510	117.8		
			Submit documents			1000	151.5		
			Finish the day	500	500	500	606		
			Visit-2 to board	1000		500	151.5		
			Collect attested Certificate			500	151.5		
			Finishing the day	500		0	303		
		Online appointment with IBCC (Intra Board Chairman Committee)	500		500	151.5			
		Visit National Bank for Challan			0	151.5			
		Visit IBCC	500		500	555.5			
		Finish the day		600	1100	404			

				Visit National Bank for Challan	500		500	151.5	
				Documents' preparation	500		500	606	
			Domicile copy	Visit citizen facilitation center	500	200	200	808	
				data entry/ challan submission		500	500	151.5	
				Obtaining e-receipt			0	404	
				Finish the day	500		0	404	
				Revisit to collect domicile			500	151.5	
				Fee submission			500	387.2	
				Application Submission	500	6000	6000	505	
			Check the status	500		0	101		
			Collect Certificate			0	101		
			Copy of D pharmacy degree				500	101	
			FBR NTN			10	20	303	
			Premises Specification and Location Plan		500	10	10	33.7	
3	Prepare Documents for HRA	Hospital Registration	Building Plan				500	303	
			Copy of CNIC		500	200	200	202	
			Affidavit	Collect stamp paper	500	10	510	252.5	
				Print affidavit			500	67.3	
				Notarize affidavit	500	150	300	202	
			Copy of Degree/Diploma		500	100	100	218.8	
			Copy of updated registration with relevant council, PNC(Pakistan Nursing council)	Challan Form	150		0	286.2	
				Photo			200	218.8	
				CNIC copy			500	336.7	
				Copy of all diploma/ Degrees			300	800	976.3
				Attested copy of matric certificate	500	30	530	252.5	
				Attested copy of domicile certificate	500	250	750	336.7	
				Finish the day	500		500	555.5	
			HCE (Health care Equipment) and machinery list		500	30	530	0	
Hiring Doctors		500		500	252.5				
Finishing the day		500		500	353.5				
4	Documents Submission at DHO office	Visit-2: DHO		500		500	353.5		
		Submit application		500		500	639.7		
		Finishing the day		500	200	200	437.7		
5	Documents Submission at HRA	Visit 2: Health Regulation Authority		500		500	404		
		Submit Application with required documents				0	336.7		
		Finish the day		500		0	404		
6	Wait for Inspection				0	319.8			
7	Inspection by DHO (pharmacy)	Drug inspector's visit				500	0		
		Inspection				0	606		
		Finish the day		500		500	0		
8	Inspection by HRA(Hospital)	HRA team's visit		0		500	0		
		Inspection		500		0	606		
		Finish the day		500		500	0		

9	Report submitted by inspection team of DHO	0		0	0	
10	Report submitted by inspection team of HRA	500		0	0	
11	Getting License	Visit-3 DHO	0		500	404
		Collect license	0		0	404
		Finish the day	500		500	286.2
		Visit-3 HRA			500	303
		Collect license	500		0	0
		Finish the day	500		500	286.2
Total (Days)				39090	26310.5	



Box-1: Stress Percentage

The distribution of stress across steps has been calculated by multiplying the total process time (including travel, wait, and transaction time) of each step with the stress level. The Stress % column in the table contains a percentage representation of stress distribution.



Table-2.2 (C) : Stress Involved in Establishing a Hospital

No	Steps	Description	Stress Level	Stress %			
1	Information Gathering	Visit the Health Regulatory Authority	2	0.00			
		Meet officials to gather information on the process of establishing hospital	3	0.02			
		Finish the day	2	0.02			
		Visit District Health Officer	4	0.03			
		Meet officials to gather information	2	0.02			
		Finish the day	5	0.02			
2	Prepare Documents required by DHO	CNIC copy	2	0.01			
		Affidavit	Collect stamp paper	2	0.01		
			Print affidavit	2	0.04		
			Notarize affidavit	4	0.02		
		Photo	Visit photo studio	5	0.42		
			Attestation	5	0.01		
		PCDA certificate	Opening Bank Account	Gather Information on specific documents required gathering	4	0.14	
				Obtaining NTN	Apply to FBR	2	0.06
					Get NTN	5	0.03
				Opening Bank Account	Gather information on opening bank account	2	0.03
					CNIC copy	4	0.06
					Business stamp	4	0.02
					Utility bill copy	2	0.02
					NTN copy	2	0.02
					Visit bank	3	0.01
					Fill the form	1	0.02
					Apply for bank account	1	0.12
					Finish the day	2	0.11
					Verification by bank	4	0.02
					Account opened	5	0.13
				Affidavit	Collect stamp paper	2	0.04
					Print affidavit	4	0.03
					Witnesses sign	1	0.09
Notarize affidavit	4	0.11					
Photo	Visit photo studio	4	0.04				
	Attestation	5	0.04				

			Attested copy of Matriculation	Copy degree	5	0.01			
				Visit concerned board	2	0.03			
				Submit documents	2	0.03			
				Finish the day	5	0.00			
				Visit-2 to board	2	0.02			
				Collect attested Certificate	2	0.03			
				Finishing the day	4	0.05			
			Online appointment with IBCC (Intra Board Chairman Committee)	2	0.07				
			Visit National Bank for Challan	5	0.02				
			Visit IBCC	5	0.01				
			Finish the day	5	0.02				
			Domicile copy	Visit National Bank for Challan	1	0.08			
				Documents' preparation	2	0.06			
				Visit citizen facilitation center	5	0.09			
				data entry/ challan submission	5	0.16			
				Obtaining e-receipt	5	0.03			
				Finish the day	3	0.05			
				Revisit to collect domicile	2	0.15			
			Fee submission	3	0.00				
			Application Submission	5	0.07				
			Check the status	5	0.09				
			Collect Certificate	5	0.17				
			Copy of D pharmacy degree	5	0.12				
			FBR NTN	5	0.04				
			Premises Specification and Location Plan	5	0.07				
			3	Prepare Documents for HRA	Hospital Registration	Building Plan	2	0.09	
						Copy of CNIC	4	0.03	
						Affidavit	Collect stamp paper	4	0.00
							Print affidavit	2	0.00
							Notarize affidavit	4	0.16
						Copy of Degree/Diploma	4	0.00	
						Copy of updated registration with relevant council, PNC(Pakistan Nursing council)	Challan Form	5	0.00
Photo	5	0.16							
CNIC copy	2	0.00							
Copy of all diploma/ Degrees	5	0.00							
Attested copy of matric certificate		1				0.00			
	Attested copy of domicile certificate	5				0.04			
	Finish the day	1				0.11			
HCE (Health care Equipment) and machinery list	2	0.03							
Hiring Doctors	5	0.03							
Finishing the day	2	0.00							
4	Documents Submission at DHO office	Visit-2: DHO	5	0.04					
		Submit application	1	0.11					
		Finishing the day	2	0.03					

5	Documents Submission at HRA	Visit 2: Health Regulation Authority	5	0.03
		Submit Application with required documents	2	0.00
		Finish the day	2	0.03
6	Wait for Inspection		5	6.92
7	Inspection by DHO (pharmacy)	Drug inspector's visit	2	84.93
		Inspection	5	3.54
		Finish the day	2	0.09
8	Inspection by HRA(Hospital)	HRA team's visit	5	0.01
		Inspection	1	0.00
		Finish the day	2	0.02
9	Report submitted by inspection team of DHO		5	0.00
10	Report submitted by inspection team of HRA		1	0.03
11	Getting License	Visit-3 DHO	1	0.11
		Collect license	1	0.08
		Finish the day	2	0.03
		Visit-3 HRA	3	0.11
		Collect license	1	0.08
		Finish the day	2	0.02

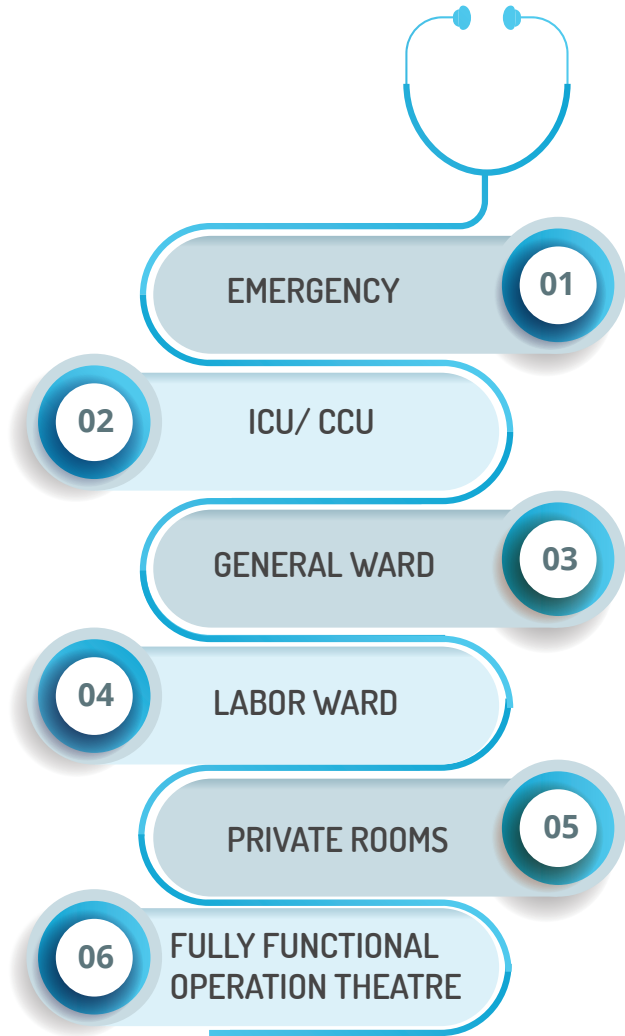


Calculation of Cost of the Sludge

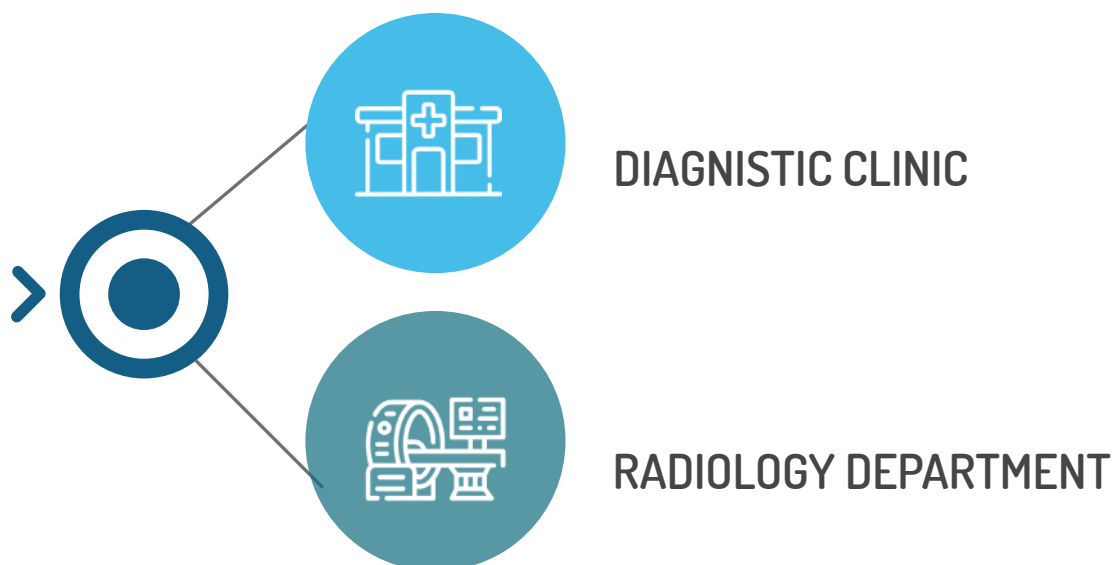
90 BEDS HOSPITAL



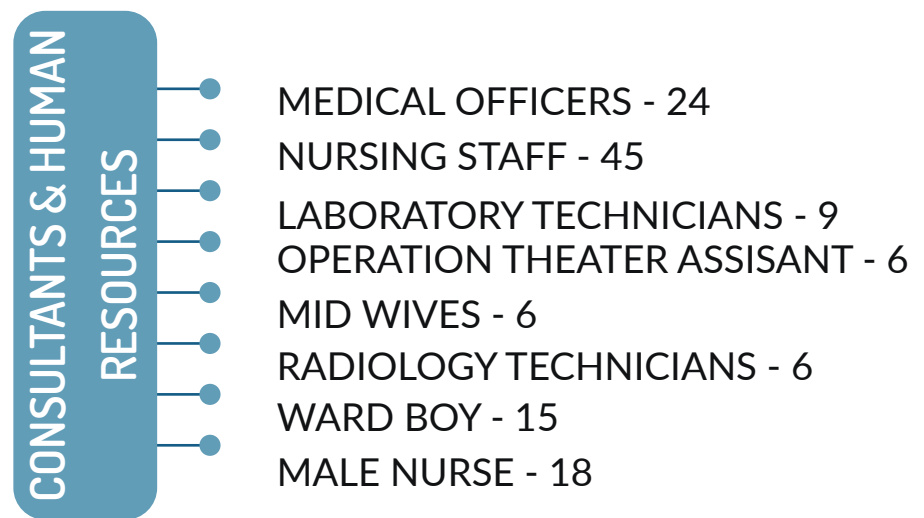
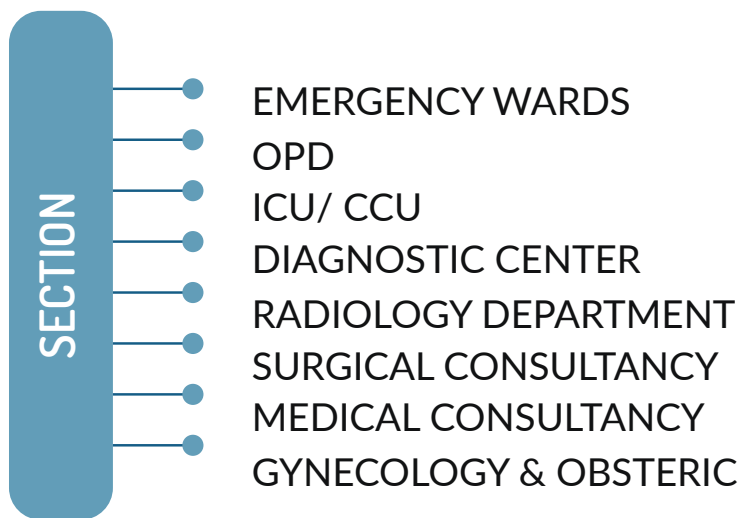
INDOOR FACILITIES



OUTDOOR FACILITIES



A hospital with the above facilities comprises the following sections and human resources



Identified revenue centers of hospitals we surveyed in terms of revenue percentage are given in the table below. Based on the information given below, we computed the foregone earnings for 8.5 months.

REVENUE CENTER	
DESCRIPTION	% OF TOTAL REVENUE
Consultation Fee	52.88
General Surgery	7.40
Gynecology & Obstetrics	11.11
Room Rent	13.22
Emergency	1.90
Labor War	1.27
ICU/ CCU	1.90
General Ward	2.06
Ultra-Sound	2.82
X-Ray	1.55
EKG	2.12
Complete Blood Test / Urine Test	1.76

The major component of the running cost of a hospital is human resources. A tentative detail of this particular head is given in the table below.

Human Resource			
No	Description	No. of Employees	% of Human Resource Cost
1	Medical Officer	24	31.03
2	Nursing Staff	45	23.27
3	Male Nurse	18	7.76
4	Ward Boy/Office Boy	15	5.68
5	Laboratory Technicians	9	4.65
6	Chief Executive	1	2.87
7	Room Cleaners	6	2.59
8	Security Guards	6	2.59
9	Receptionist	6	2.59
10	1Radiology Technicians	6	2.59
11	Operation Theater Assistant	6	2.59
12	Midwives	6	2.41
13	Admin and Finance Manager	1	2.15
14	Admin Officers	2	2.81
15	Accounts Clerk/Cashier	3	1.47
16	Accountant	2	1.44
17	Electrician/Technician	3	1.29
18	Storekeeper	3	1.12
Sub - Total		162	

The other main head in terms of cost is the investment in machinery and equipment. Based on the description of the hospital, the following are the head-wise investment requirements.

Description	Quantity	% of Investment in Machinery	
Machinery & Equipment			
Radiology Department			
1	X-Ray Apparatus	1	9.64
2	Dark Room X-Ray Accessories	1	0.58
3	ECG - Machine	2	1.93
4	Ultrasound Machine	1	0.66
5	Printer for Ultrasound	1	0.29
Sub - Total		13.09	
Diagnostic Center			
1	Blood Analyzer	1	2.20
2	ELISA for Hormone Analysis	1	9.64
3	Binocular Microscope	1	0.56
4	Centrifuge Machine	1	0.25
5	Clinical Water Bath	1	0.04
6	Photo Calorimeter	1	0.08
7	Lab Incubator	1	0.58
8	Miscellaneous Lab Equipment	1	1.93
9	Chemistry Analyzer	1	0.73
Sub - Total		16.01	

Machiner & Equipment		
1	Operation Theatre Shadowless Light	2.78
2	Electric Suction Apparatus	0.10
3	Surgical Diathermy	0.25
4	Anesthesia Apparatus	1.62
5	Trolley for Anesthesia	0.12
6	Cardiac Resuscitation Trolley	0.33
7	Cardiac Monitor	0.25
8	Hydraulic Operation Table	0.21
9	Horizontal and Vertical Autoclave	0.25
10	Operation Table	0.37
11	Emergency Oxygen Kit	2.89
Sub - Total		9.16
Gynecology, Obstetrics & Pediatrics		
1	Operation Theatre Shadow-less Light	3.16
2	Electric Suction Apparatus	0.10
3	Delivery Table	0.23
4	Computerized Baby Incubator	8.97
5	Phototherapy Apparatus	0.34
6	Baby Cot with Side Protection	0.18
Sub - Total		12.98
ICU/CCU (5 Beds)		
1	Ventilator	15.04
2	Cardiac Monitors	1.64
3	Arterial Blood Gas Analyzer	16.39
Sub - Total		33.07
Other Equipments		
1	Electricity Generator (200kwa)	4.13
2	Elevator	7.71
3	Instrument Sterilizers	0.04

The details of investment required on furniture and fixture are as follow.

Details of Furniture & Fixture

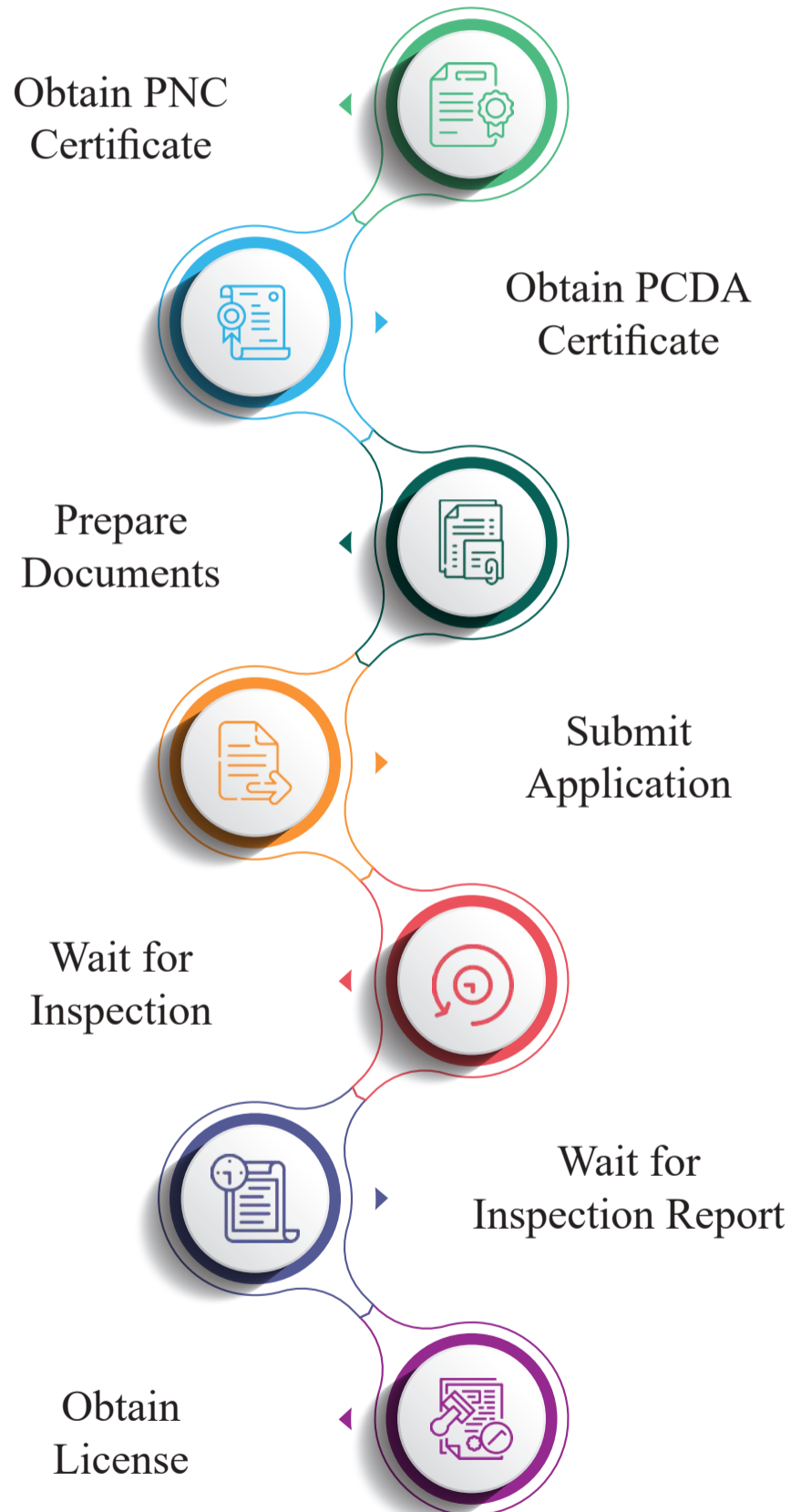
Description	No.	% of Investment in Furniture
Furniture		
1 Singlr Side Liftable Beds	71	8.87
2 Examination Couch	13	0.53
3 Sofa Set 3 Seat	57	6.93
4 Chairs	69	1.84
5 Office Table	24	1.94
6 Bed Side Cabinets	60	1.42
7 Mobile Stretcher Trolleys	8	0.30
8 Wheelchairs	16	1.35
9 Instrument Trolley	10	0.44
Sub - Total		23.61
Fixture		
1 Air conditioner Split Units (1.5 tons)	99	36.76
2 Refrigerators	30	6.08
3 LCDs for Rooms	25	4.22
4 LCDs for Reception & Lounges	5	1.69
5 File Cabinets	15	1.22
6 Electric Wirings and Fixtures (Lump sum)	-	20.25
7 Laptops	4	1.76
8 Computers with UPS	6	1.22
9 Printers	7	0.71
10 Telephone Exchange	1	1.01
11 Telephone Sets	40	0.41
12 Fire Extinguishers	20	1.08
Sub - Total		76.39



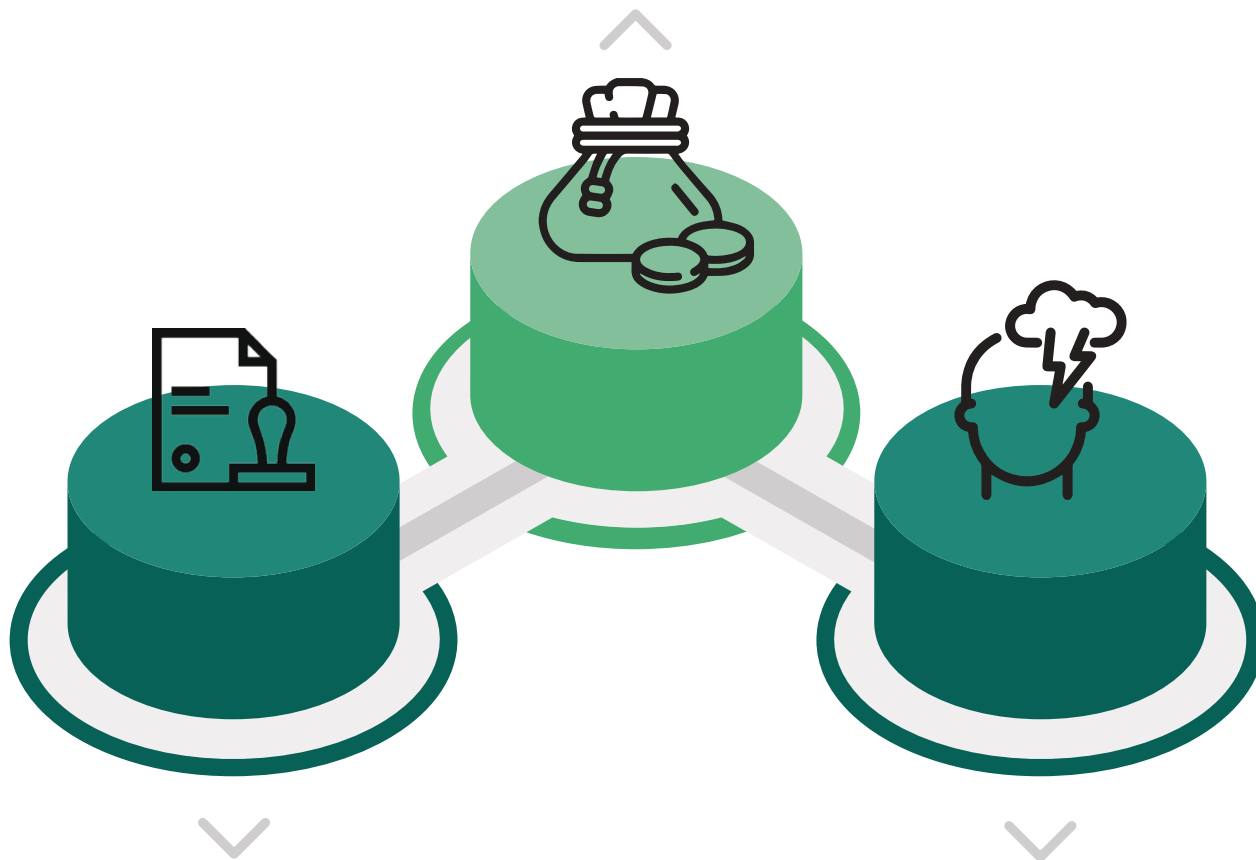
2.3

SETTING-UP A DIAGNOSTIC CENTER

Under Sections 21 and 22 of the Islamabad Healthcare Regulations Act (2018), it is mandatory for all healthcare service providers to apply for registration and licensing for their respective healthcare establishments with Islamabad Healthcare Regulatory Authority.



The cost of sludge involved in obtaining permission to set up a diagnostic center can be up to 36.5% of the total investment.



The process of obtaining permission to set up a diagnostic center consumes around 6.14 months.

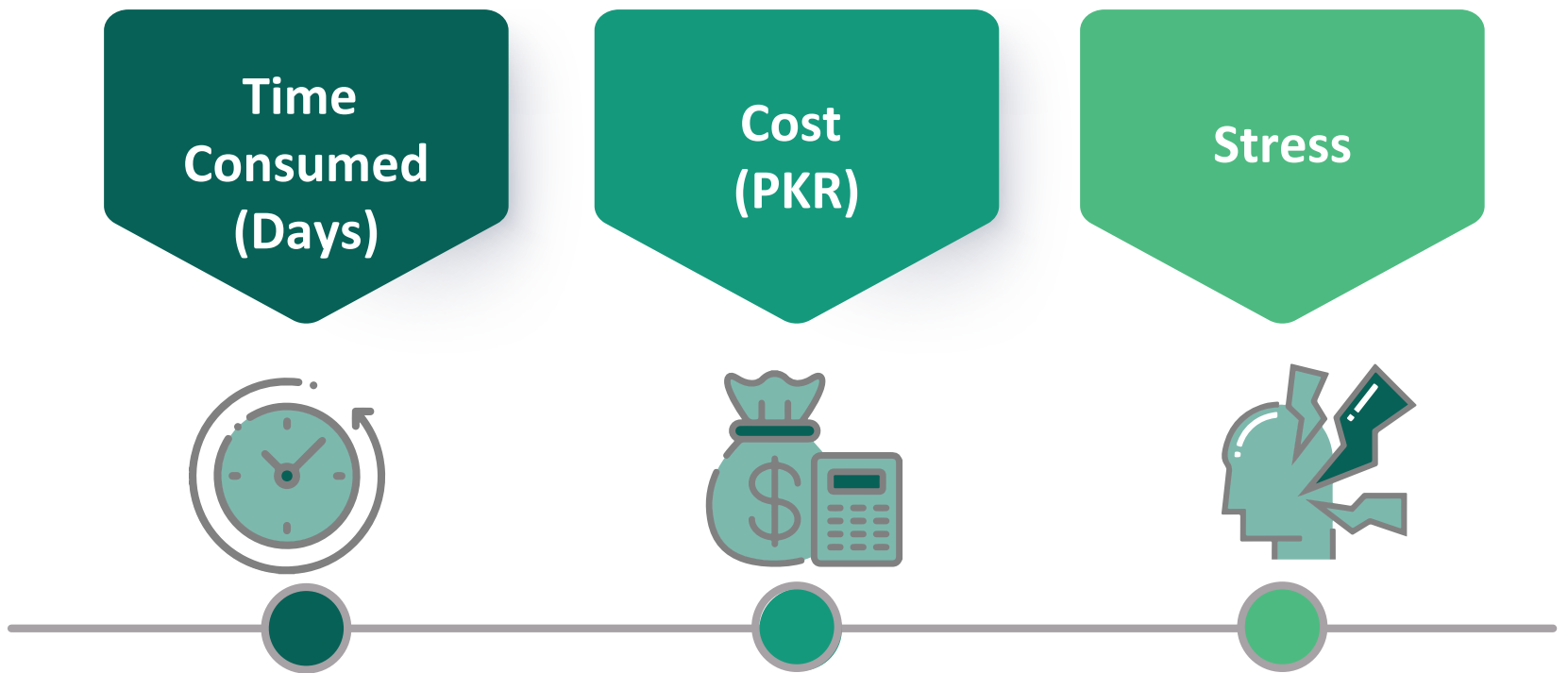
The process involves a moderate stress level (3.5/5)

The sludge involved in obtaining permission to set up a pharmaceutical unit costs the economy around 0.03% of GDP.



Based on the suggested recommendations, the cost of sludge can be reduced by 34.2%.

CHART-2.3 (A) : SETTING-UP A DIAGNOSTIC CENTER



	Time Consumed (Days)	Cost (PKR)	Stress
Gather Information	3	3,000	3.3/5
PCDA Certificate	50	29,630	3.4/5
PNC Certificate	14	31,000	3.5/5
Prepare Other Documents	10	15,320	3.3/5
Submit Application	1 1/2	1,000	3.3/5
Wait for Inspection	60		5/5
Inspection by IHRA	1	1,000	3.6/5
Wait for Inspection Report	15		5/5
Obtain License	1 1/2	1000	3.6/5

SOURCES OF THE SLUDGE

The major sources of sludge are:



NOC from PCDA: To establish a diagnostic laboratory, an NOC from PCDA is required. The issuance of NOC by PCDA certificate in turn requires that the applicant should have a National Tax Number (NTN), a bank account, and an attested copy of his/her matriculation certificate.

Bank Account: Opening a bank account takes around 15 days

Matriculation Certificate: The matriculation certificate (of the applicant/owner of the diagnostic center) has to be attested by the concerned matriculation board.

Inspection by IHRA: Before the approval is granted the center is inspected by the IHRA. This can take around two months after applying for registration along with all the documents required.



Definitions

Agency Time

The time consumed by the department/agency concerned in processing an activity.

Overhead Time

Part of the day was lost due to being involved in this activity.

COST OF THE SLUDGE

Some aspects of the sludge related costs are captured by considering the following elements of setting-up a diagnostic center:

1. Human Resource Cost

The application submitted to the IHRA requires the list of nurses and other human resources that have been hired by the diagnostic center. Therefore, even while waiting for approval and registration, the owner of the center has to bear the salary cost of hired staff members.

The setup we assumed consists of 29 staff members and 6.14-month delay in the operation costs the owner around 17.30% of the total investment in terms of HR cost.⁴

2. Rental Cost

We assume the property where the center is going to be established has been leased on rent. During the waiting time of permission, the rental cost also has to be borne by the owner of the center.

The average rental cost of commercial properties in Islamabad is around Rs. 550 per square foot⁵. The required area to set up a diagnostic center is 1500 sq. ft, therefore, the rental cost of the sludge accounts for 14.87% of the total investment

3. Cost of Personal Time

The individual who wants to establish the diagnostic center has to invest not only financial resources but also time. Therefore, the owner may not be able to participate in other economic activities that generate income.

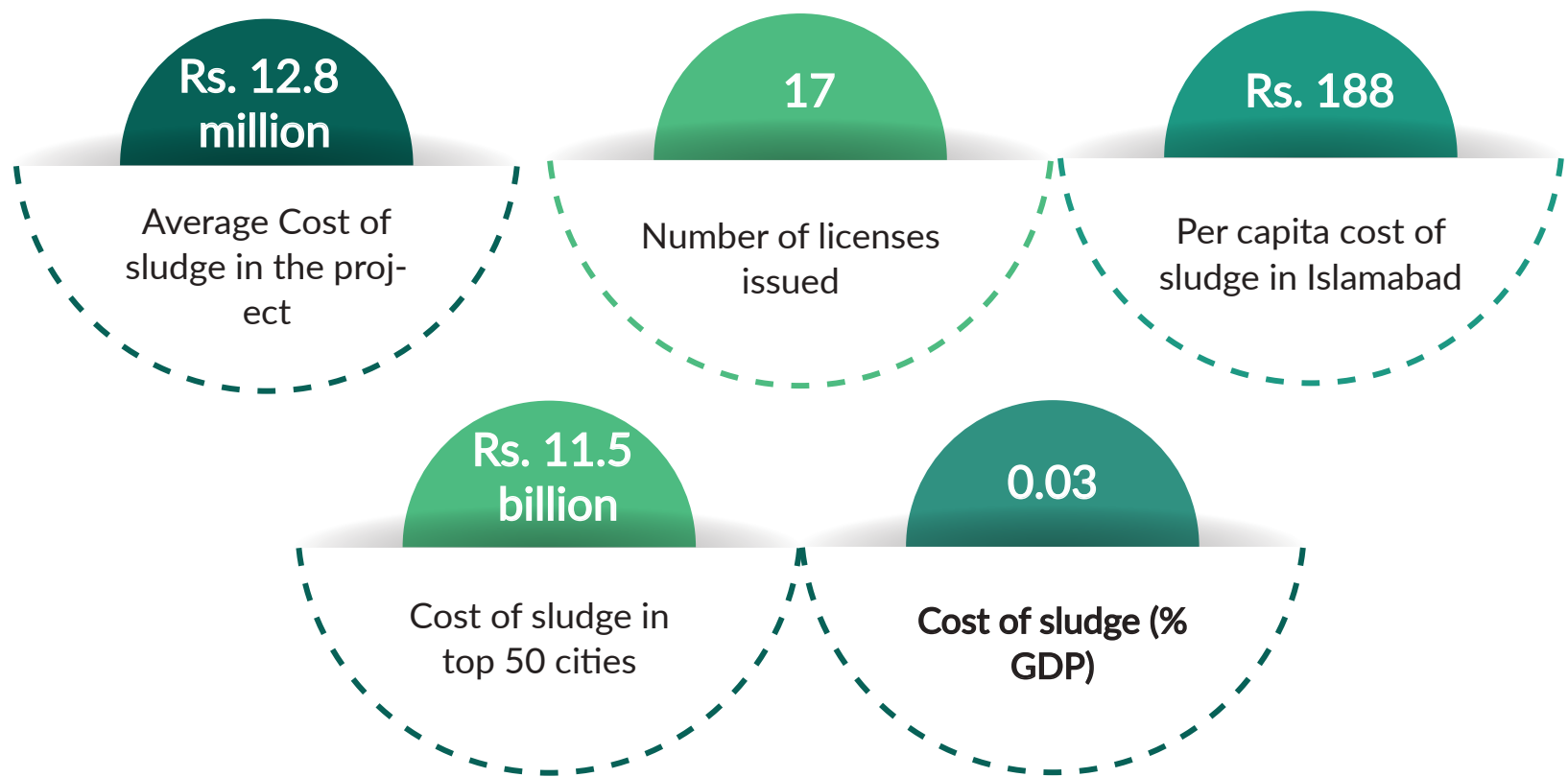
To capture this opportunity cost of the sludge, we assume that the opportunity cost of the individual is Rs. 250,000 per month. Based on this assumption, the cost of sludge in terms of personal time accounts for 4.48% of the total investment.

Head	Cost of the sludge
HR Cost	17.30 % of project cost
Rental Cost	14.87 % of project cost
Personal Time Cost	4.48 % of project cost

⁴Total investment required to start a diagnostic center is around Rs. 35 million excluding monthly rent and salaries.

COST OF THE SLUDGE IN TERMS OF GDP

To assess the impact of the cost of regulation on the economy, we translate the cost of sludge in obtaining permission to set up a diagnostic center (36.6% of project value) in terms of GDP. The task is performed based on the following information: (i) average project cost, (ii) number of licenses issued during last year, and (iii) population in top 50 cities of Pakistan.



CUTTING THE SLUDGE

Steps that can be eliminated: The affidavit requirement of the applications submitted at the IHRA, and PCDA certificate can be done away with by simply incorporating the required undertakings into one of the clauses of the application form and taking the consent of the applicant.

The time and money spent on gathering information as to what is the process of establishing a diagnostic center and the sub-processes of getting an NTN or opening a corporate bank account can be reduced significantly if all the required information is posted on the relevant websites in a user-friendly manner. In this way, the time spent and the cost in making a trip to relevant offices, waiting for the concerned official, and interacting with the official will be saved.

The boards of intermediate and secondary education take unusually long time in attesting the matriculation certificates. At least a part of the process can be digitized moreover the in-person visit of the applicants be done away with by entertaining attestation requests through courier.

The office of the Health Regulatory Authority (IHRA) in processing the applications, that is, undertaking a visit of the center, submitting the inspection report, and issuing the final license – this looks like the usual bureaucratic delay and has to be taken care of by undertaking appropriate reform measures, such as allowing the operations at the time of application submission and having inspection within a set period.

Cutting the Sludge: Reduction in Time Consumed and Cost Based on the Recommendations



⁵ The average rental value is based on the data collected from the zameen.com

Color Legend



Table-2.3 (A): Time Involved in Setting-up a Diagnostic Center

Steps	Description	Time (Minutes)				Overhead Time (Minutes)	Agency Time		
		Travel	Waiting	Transaction/Process	Total				
Gather Information	Visit the IHRA	45			45	480 (1 day)			
	Meet officials		30	60	90				
	Finish the day	45			45				
Prepare Documents	Application form	90	10	30	130	960 (2 days)			
	CNIC copy	90	5	10	105				
	Building plan	90	30	60	180				
	Affidavit	Collect stamp paper	45	20	10			75	
		Print affidavit		10	10			20	
		Notarize affidavit	90	10	60			160	
	Photo	Visit photo studio	45	60	10			115	
		Attestation		45	180			225	
		Finish the day	45					45	
	Copy of PCDA certificate	Information gathering	90	30	60	180	480 (1 day)	7200 (15 days)	
		Obtaining NTN	Apply -FBR			30	30		480 (1 day)
			Obtaining NTN			10	10		
		Open bank account	Gather information	90	30	30	150		1440 (3 days)
			CNIC copy	90	5	10	105		
			Business stamp	90	30	60	180		
			Utility bill copy			10	10		
			NTN-FBR			30	30		
			Visit bank	45			45		
			Fill the form		30		30		
			Apply for a bank account		15	30	45		
			Finish the day	45			45		
Verification					30	30			
Account opened				10	10				
Affidavit		Collect stamp paper	90	20	10	120	480 (1 day)		
	Print affidavit		10	10	20				
	witnesses sign	90	15	480	585				
	Notarize affidavit		10	10	20				
Photo	Visit photo studio	90	60	10	160				
	Attestation	90	45	5	140				
Documents submission	Copy degree	90	10	5	105				
	Visit concerned board	45			45				
	Documents submission		150	30	180				

		Finish the day	45			45	7200 (15 days)	1920 (4 days)
		Visit-2 to the board (3days)	45			45		
		Collect attested degree		60	30	90		
		Finish the day	45			45		
		Online appointment IBCC		15	30	45		
		Visit National Bank for Challan	90	15	60	165		
		Visit IBCC	45	15	60	120		
		Finish the day	45			45		
		Visit National Bank for Challan	90	60	30	180	1440 (3 days)	3360 (7 days)
		Documents preparation		120	120	240		
		Visit citizen facilitation center	45			45		
		Data entry/ challan submission		60	60	120		
		Obtaining e-receipt		60	60	120		
		Finish the day	45			45		
		Revisit to collect domicile	90	15	10	115		
		Fee submission	90	45	15	150		
		Application Submission	90			90		
		Check the status		10	30	40		
		Collect Certificate	90			90		
	Copy of Pakistan Nursing Council (PNC) Registration	Gather information					1440 (3 days)	4800 (10 days)
		Challan Form	90	30	10	130		
		Photo	90	10	180	280		
		CNIC copy			10	10		
		Copy of all diploma/ Degrees			10	10		
		Attested copy matric certificate			180	180		
		Attested copy of domicile certificate			80	80		
		Submit application	90	30	60	180		
		Status check	90	30	10	130		
		Get registration	90	30	10	130		
	Copy of Degree/Diploma	90			90	3360 (7days)		
	HCE (Health care Equipment) approved	Testing			480			480
		Data Review			120			120
		Decision			120			120
		Approve/Disapproved			60			60
		Finish the day			30			30
	Staff list	Hire the staff	90	180	1440	1710		
Submit Documents	Visit 2. IHRA		45			45	480 (1 day)	
	Submit Application with required documents			30	45	75		
	Finish the day		45			45		
Wait for Inspection						0		28800 (60 days)
Inspection by IHRA	IHRA team visit		45			45	480 (1 day)	
	Inspection			60	180	240		
	Finish the day		45			45		
Report submitted by the inspection team of IHRA						0		7200 (15 days)
Get License	Visit-3 HRA		45		45	90	480 (1 day)	4800 (10 days)
	Collect license			10	30	40		
	Finish the day		45			45		
Aggregate Time (Months)							6.14	

Table-2.3 (B): Monetary Cost Involved in Setting-up a Diagnostic Center

No	Steps	Description	Cost (PKR)				
			Travel	Fee	Total		
1	Gather Informatio	Visit the IHRA	500		500		
		Meet officials			0		
		Finish the day			500		
2	Prepare Documents	Application form	1000	50	1050		
		CNIC copy	1000	10	1010		
		Building plan	1000	1000	2000		
		Affidavit	Collect stamp paper	500	100	600	
			Print affidavit		200	200	
			Notarize affidavit	1000	1250	1250	
		Photo	Visit photo studio	500	260	760	
			Attestation			0	
			Finish the day	500		500	
		Copy of PCDA certificate	Information gathering	1000		1000	
			Obtaining NTN	Apply -FBR			0
				Obtaining NTN			0
			Open bank account	Gather information	1000		1000
				CNIC copy	1000	10	1000
				Business stamp	1000	1000	1000
				Utility bill copy		10	10
				NTN-FBR			0
				Visit bank	500		500
				Fill the form			0
				Apply for a bank account			0
				Finish the day	500		500
				Verification			0
			Account opened			0	
			Affidavit	Collect stamp paper	1000	100	1100
				Print affidavit		200	200
				witnesses sign	1000		1000
				Notarize affidavit		250	250
			Photo	Visit photo studio	1000	250	1250
				Attestation	1000		1000
		Attested copy of Matriculation	Copy degree	1000	10	1000	
			Visit concerned board	500		500	
			Documents submission		500	500	
			Finish the day	500		500	
			Visit-2 to the board (3days)	500		500	
			Collect attested degree			0	
			Finish the day	500		500	
			Online appointment IBCC			0	
			Visit National Bank for Challan	1000	600	1600	
			Visit IBCC	500		500	
		Finish the day	500		500		
	Visit National Bank for Challan	1000	200	1200			
	Documents preparation			0			

			Domicile copy	Visit citizen facilitation center	500		500
				Data entry/ challan submission			0
				Obtaining e-receipt			0
				Finish the day	500		500
				Revisit to collect domicile	1000	6000	7000
				Fee submission	1000		1000
				Application Submission	1000		1000
				Check the status			0
				Collect Certificate	1000		1000
		Copy of Pakistan Nursing Council (PNC) Registration		Challan Form		150	150
				Photo	1000	10	1010
				CNIC copy	1000	10	1010
				Copy of all diploma/ Degrees		10	10
				Attested copy matric certificate		30	30
				Attested copy of domicile certificate		10	10
			Copy of Degree/Diploma			50	50
		HCE (Health care Equipment) approved		Testing	1000	5000	6000
				Data Review	1000		1000
				Decision	1000		1000
				Approve/Disapproved	1000		1000
				Finish the day			0
		Staff list		Hire the staff			0
3	Submit Documents		Visit 2. IHRA		500		500
			Submit Application with required documents				0
			Finish the day		500		500
4	Wait for Inspection					0	
5	Inspection by IHRA		IHRA team visit		500		500
			Inspection				0
			Finish the day		500		500
6	Report submitted by the inspection team of IHRA					0	
7	Get License		Visit-3 HRA		500		500
			Collect license				0
			Finish the day		500		500
Total Cost							67,540



The distribution of stress across steps has been calculated by multiplying the total process time (including travel, wait, and transaction time) of each step with the stress level. The Stress % column in the table contains a percentage representation of stress distribution.



Table-2.3 (C) : Stress Involved in Setting-up a Diagnostic Center

No	Steps	Description	Stress Level	Stress %		
1	Gather Informatio	Visit the IHRA	3	0.36		
		Meet officials	5	1.19		
		Finish the day	2	0.24		
2	Prepare Documents	Application form	5	1.72		
		CNIC copy	2	0.56		
		Building plan	3	1.43		
		Affidavit	Collect stamp paper	3	0.60	
			Print affidavit	3	0.16	
			Notarize affidavit	4	1.69	
		Photo	Visit photo studio	3	0.91	
			Attestation	5	2.98	
			Finish the day	2	0.24	
		Copy of PCDA certificate	Information gathering	4	1.90	
			Obtaining NTN	Apply -FBR	5	0.40
				Obtaining NTN	2	0.05
			Open bank account	Gather information	5	1.98
				CNIC copy	2	0.56
				Business stamp	3	1.43
				Utility bill copy	2	0.05
				NTN-FBR	1	0.08
				Visit bank	2	0.24
				Fill the form	3	0.24
				Apply for a bank account	5	0.60
				Finish the day	1	0.12
				Verification	5	0.40
			Account opened	1	0.03	
			Affidavit	Collect stamp paper	3	0.95
		Print affidavit		4	0.21	
		witnesses sign		5	7.74	
		Notarize affidavit		5	0.26	
Photo	Visit photo studio	2	0.85			
	Attestation	5	1.85			

			Copy degree	1	0.28	
			Visit concerned board	5	0.60	
			Documents submission	5	2.38	
			Finish the day	2	0.24	
		Attested copy of Matriculation	Visit-2 to the board (3days)	3	0.36	
			Collect attested degree	5	1.19	
			Finish the day	2	0.24	
			Online appointment IBCC	5	0.06	
			Visit National Bank for Challan	4	1.75	
			Visit IBCC	5	1.59	
			Finish the day	2	0.24	
			Domicile copy	Visit National Bank for Challan	5	2.38
				Documents preparation	4	2.54
				Visit citizen facilitation center	5	0.60
		Data entry/ challan submission		5	1.59	
		Obtaining e-receipt		3	0.95	
		Finish the day		2	0.24	
		Revisit to collect domicile		4	1.22	
			Fee submission	5	1.98	
			Application Submission	5	1.19	
			Check the status	4	0.42	
			Collect Certificate	3	0.71	
	Copy of Pakistan Nursing Council (PNC)		Challan Form	5	0.00	
			Photo	3	1.03	
			CNIC copy	2	1.48	
			Copy of all diploma/ Degrees	2	0.05	
			Attested copy matric certificate	5	0.13	
		Registration	Attested copy of domicile certificate	5	2.38	
		Copy of Degree/Diploma	2	0.42		
	HCE (Health care Equipment) approved		Testing	5	2.38	
			Data Review	4	1.38	
			Decision	3	1.03	
			Approve/Disapproved	5	1.19	
			Finish the day	2	2.54	
	Staff list		Hire the staff	5	1.59	
3	Submit Documents		Visit 2. IHRA	3	0.95	
			Submit Application with required documents	4	0.63	
			Finish the day	3	0.24	
4	Wait for Inspection		5	22.16		
5	Inspection by IHRA		IHRA team visit	4	0.48	
			Inspection	5	0.99	
			Finish the day	2	0.24	
6	Report submitted by the inspection team of IHRA		5	0.00		
7	Get License		Visit-3 HRA	2	0.24	
			Collect license	4	2.54	
			Finish the day	2	0.24	

Calculation of Cost of Sludge

The project we assumed requires fixed investment in the following heads:

Head-wise Investment Requirements (% of total investment)	
Machines	75.57
Office Equipment	23.64
Furniture & Fixture	0.29
Machine Maintenance	0.49

The description of staff has been provided in the following table:

Description of Staff		
Title	Number	Monthly Salary (PKR)
Radiologist	3	70000
Biochemist	2	65000
Pathologist	2	45000
Technologist	2	55000
Microbiologist	2	18000
Doctor	2	55000
Lab Technician	3	18000
In Charge	2	35000
Receptionist	2	20000
Guard	2	15000
Cleaning Staff	3	15000
Office Boy	4	10000



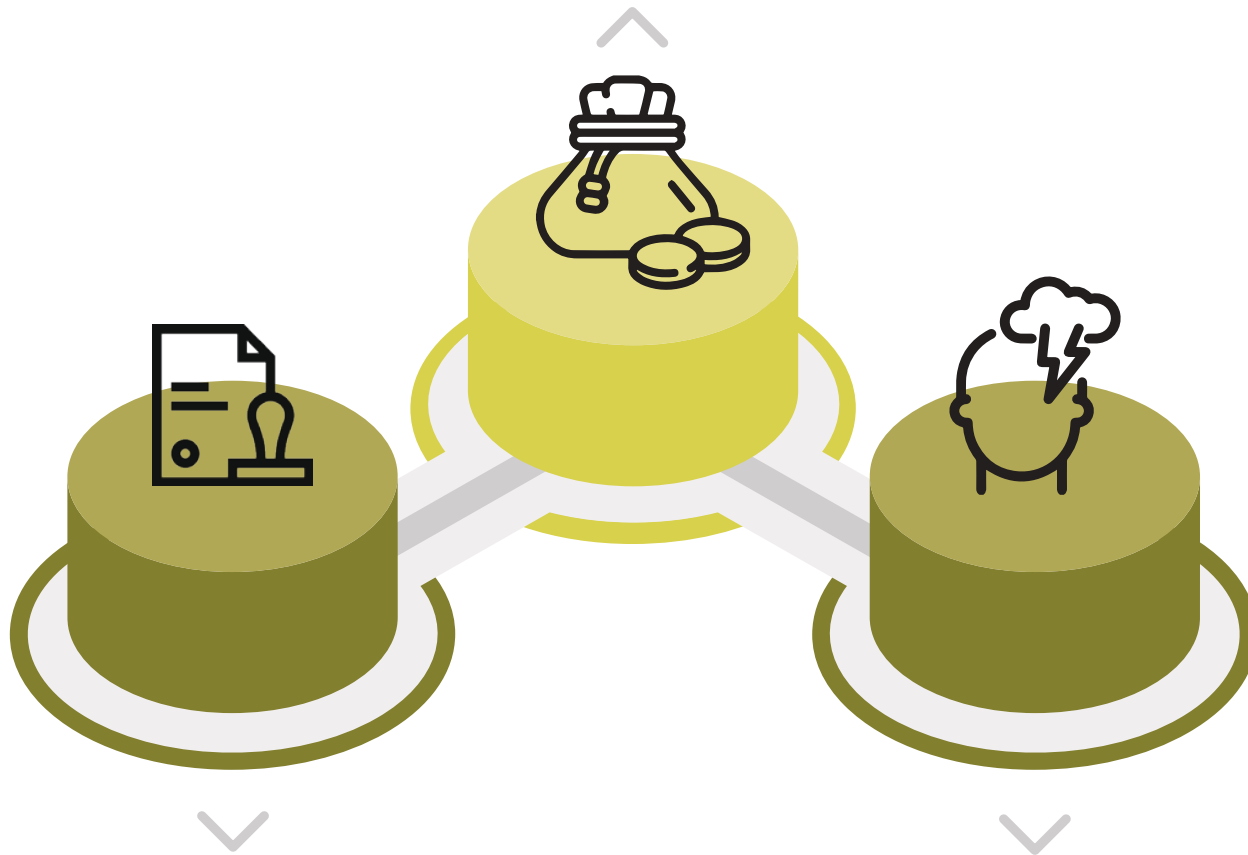
2.4

SETTING-UP A PHARMACY

THE PROCESS OF SETTING-UP A PHARMACY



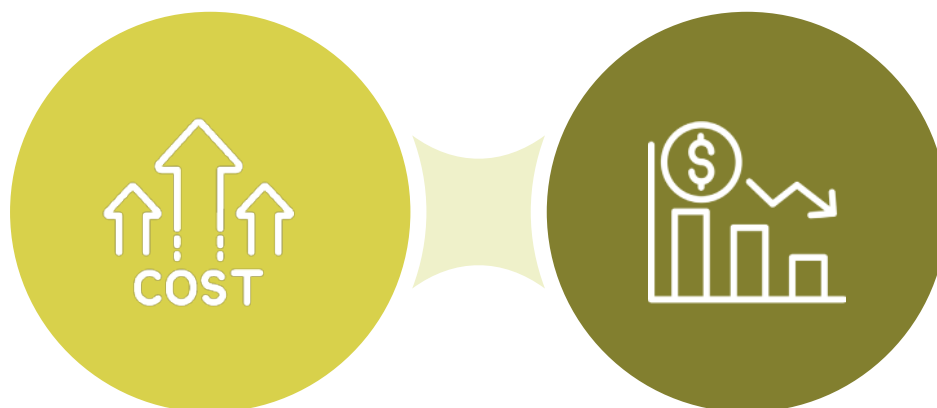
The cost of sludge involved in obtaining permission to set up a diagnostic center can be up to 6.5% of the total investment.



The process of obtaining permission to set up a pharmacy consumes around 7.2 months.

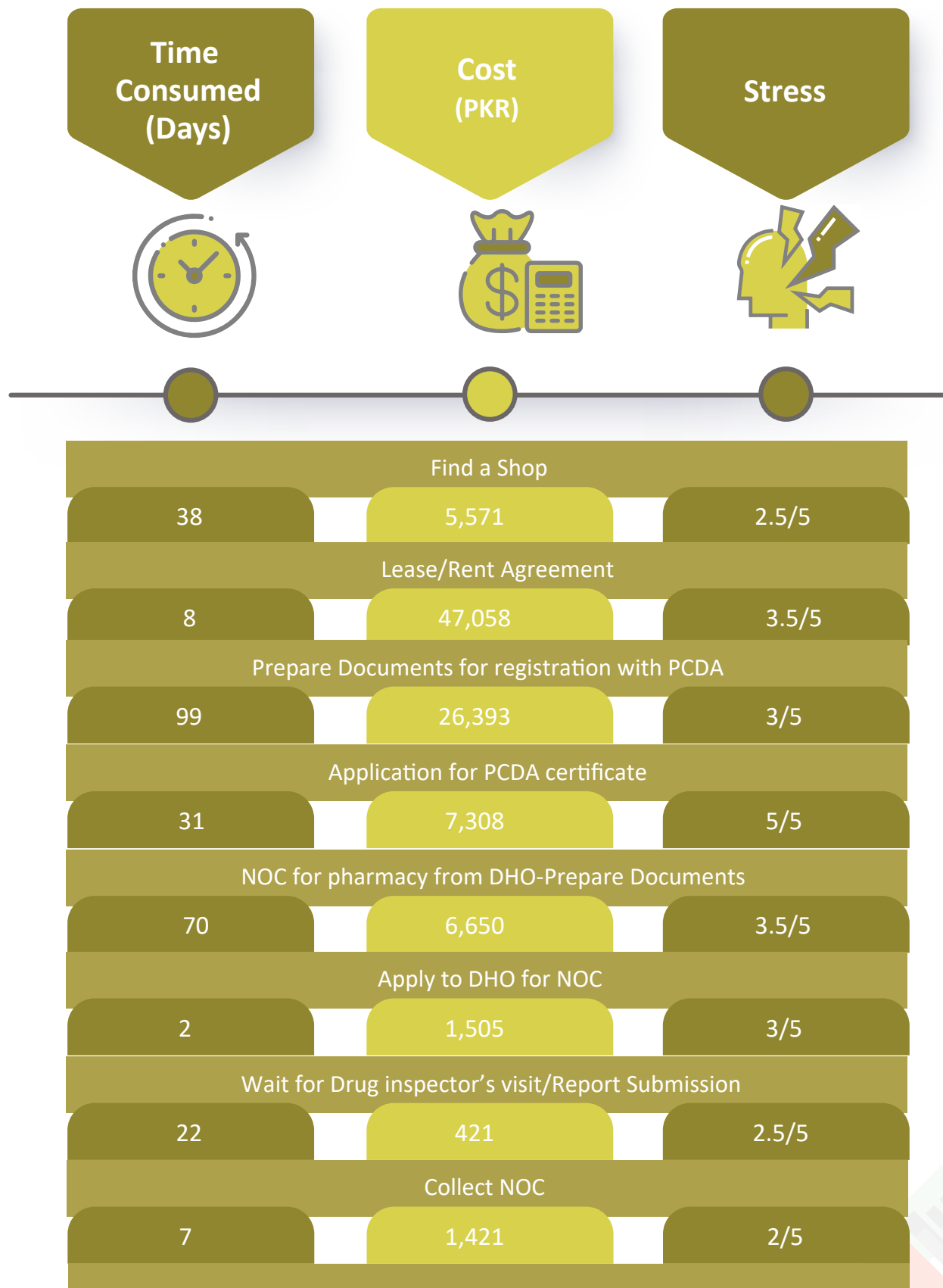
The process involves a moderate stress level (3.2/5)

The sludge involved in obtaining permission to set up a pharmaceutical unit costs the economy around 3.75% of GDP.



Based on the suggested recommendations, the cost of sludge can be reduced by 28%.

CHART-2.4 (A) : SETTING-UP A PHARMACY



SOURCES OF THE SLUDGE

The primary sources of sludge are:

1

Verification of B-Pharmacy degree from the PMDC

2

Drug inspector's visit of the site to inspect the shop and allow pharmacy license

The two steps mentioned above together take more than two months



DEFINITIONS

Agency Time

The time consumed by the department/agency concerned in processing an activity.

Overhead Time

Part of the day was lost due to being involved in this activity.

COST OF THE SLUDGE

1. RENTAL COST

The sludge involved in obtaining permission also cost in terms of rent of the property where the pharmacy is supposed to operate.

The ideal size for a pharmacy is around 750 sq. ft. , while the average rent of a shop based on data collected from zameen.com is Rs.550 per sq. ft.

Thus, the average monthly rent for the shop is around Rs. 400,000. Therefore, the cost of 7.2-month sludge is around 42.66% of the project value, given that total cost of the project is Rs. 70 million.

2. COST OF PERSONAL TIME

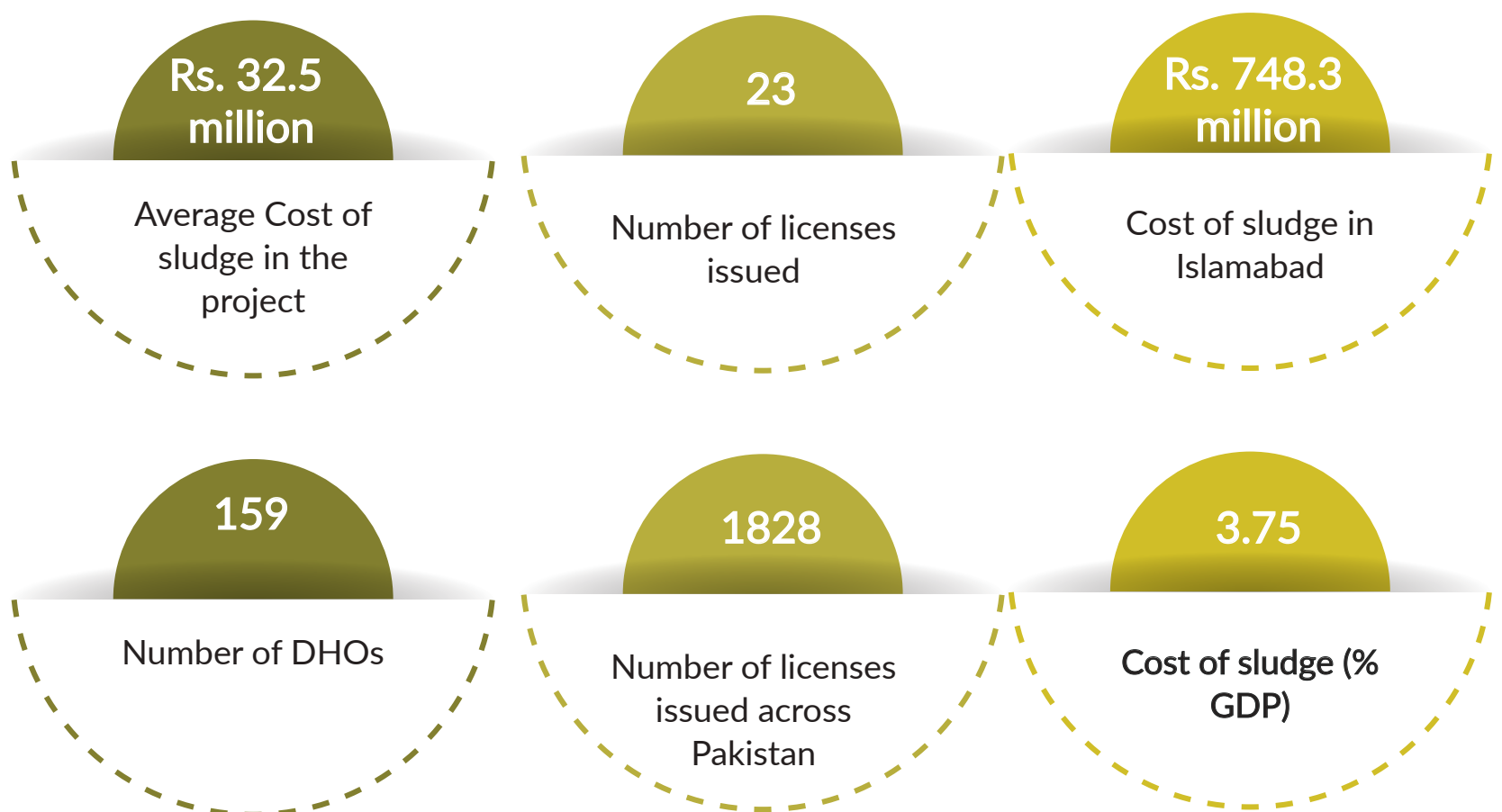
The individual who wants to open a pharmacy would most probably be a pharmacist. However, being involved in setting up the pharmacy means he would not be fully employed or engaged in other economic activities.

This cost of sludge is captured by assuming the average monthly salary of a pharmacist. The data on the average salary of a pharmacist was collected from the payscale webpage. Based on the time duration involved in setting up the pharmacy, this head accounts for around 3.82% of the project value.

Head	Cost of the sludge
Rental Cost	42.66 % of project cost
Personal Time Cost	3.82 % of project cost

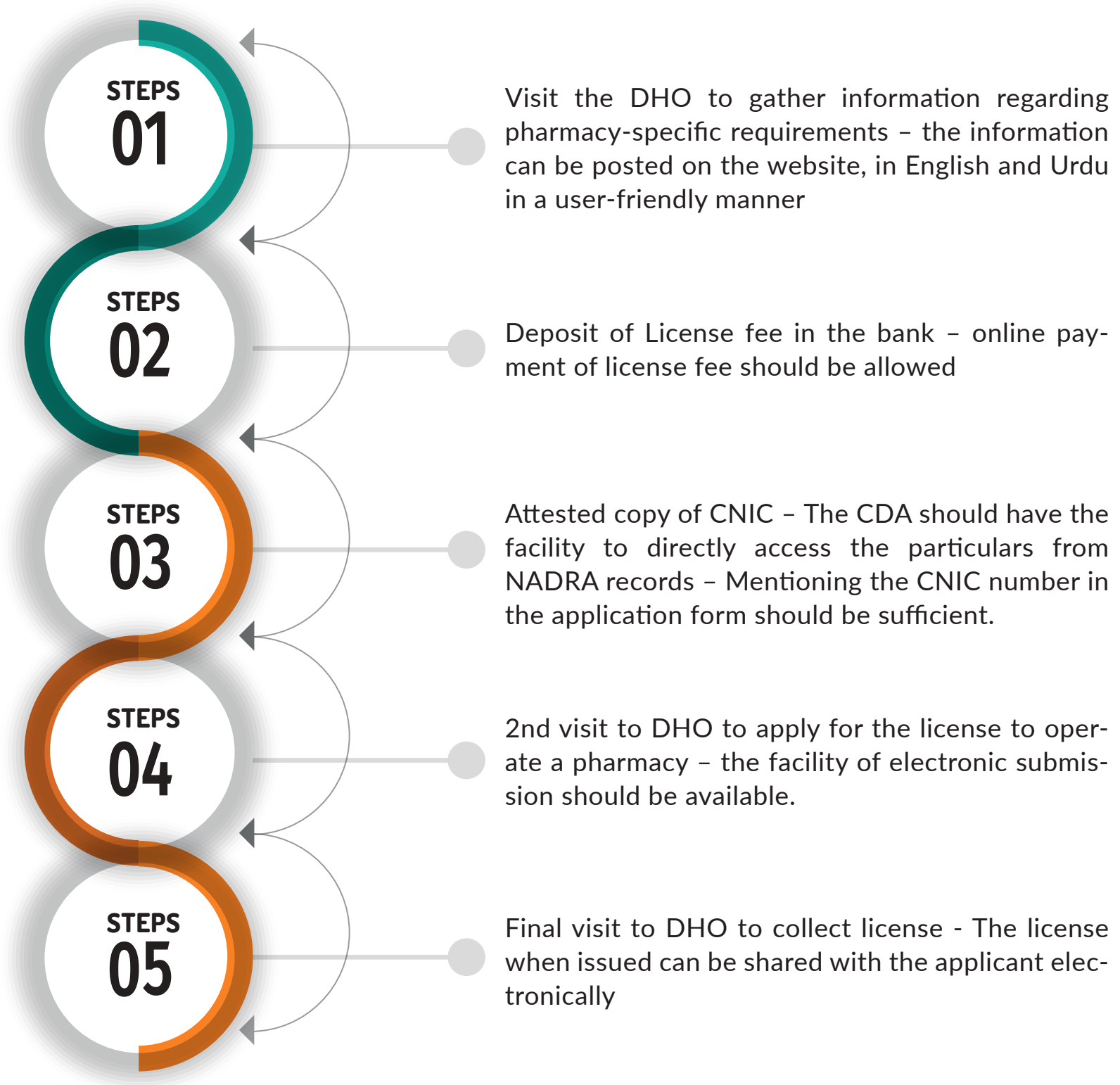
COST OF THE SLUDGE IN TERMS OF GDP

To assess the impact of the cost of regulation on the economy, we translate the cost of sludge in obtaining permission to set up a pharmacy (46.5% of project value) in terms of GDP. The task is performed based on the following information: (i) average project cost, (ii) number of licenses issued during the last year, and (iii) number of district health offices. The underlying assumption in calculating the sludge from other cities of Pakistan is that the number of licenses issued are 50% fewer than issued in Islamabad.

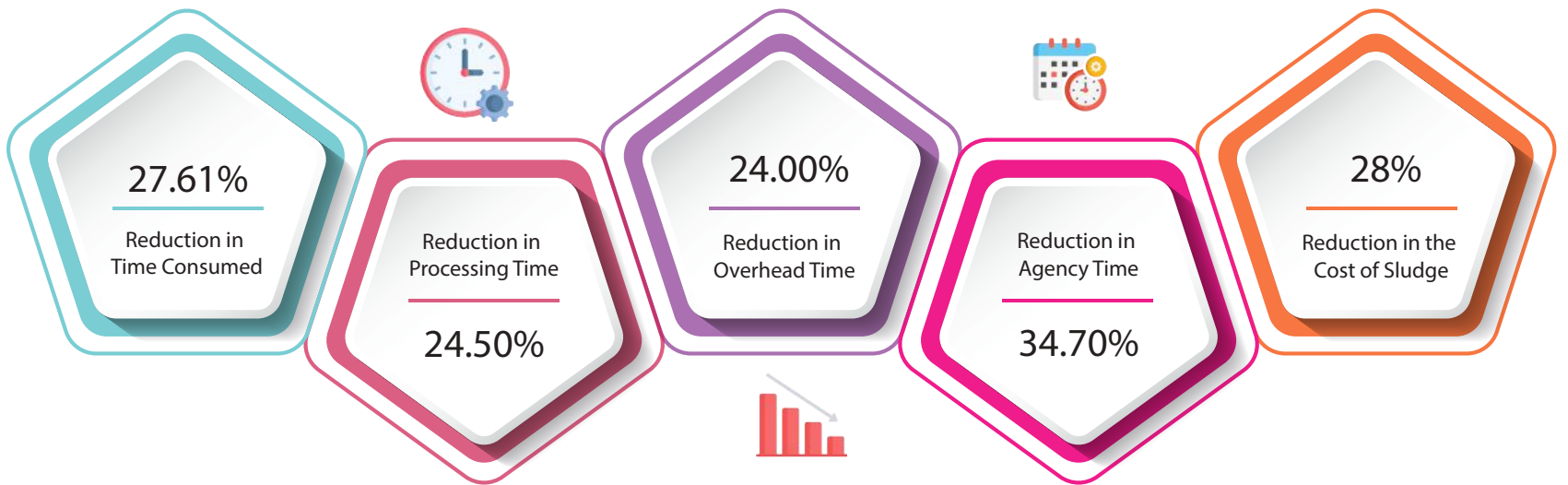


CUTTING THE SLUDGE

Steps to be eliminated through digitization:



Cutting the Sludge: Reduction in Time Consumed and Cost Based on the Recommendations



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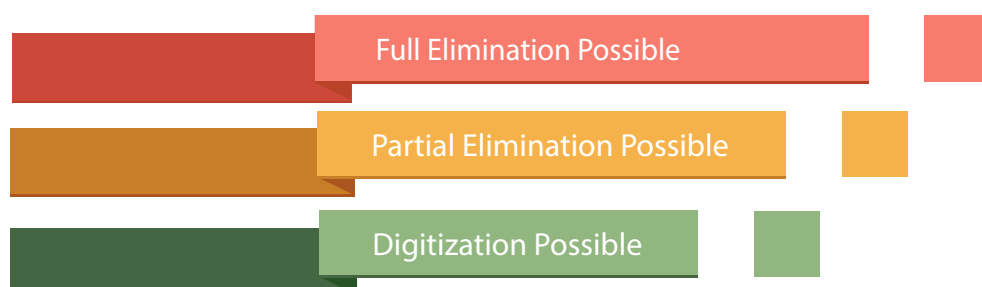


Table-2.4 (A) : Steps and Time Consumed in Setting-up a Pharmacy

No	Step	Description	Time (minutes)				Overhead Time	Agency Time	
			Travel	Waiting	Transaction / Process	Total			
1	Find a shop	Visit the realtor	45			45	14400 (30 days)	3360 (7 days)	
		Indicate Preferences for renting a shop		15	60	75			
		Finish the day	45			45			
		Visit-2 the realtor	45			45			
		Site visit		15	120	135			
		Finish the day	45			45			
		Visit-3 to the realtor	45			45			
		Meet the owner		15	120	135			
		Finish the day	45			45			
2	Lease Agreement	Collect the stamp paper	45	20	10	75	3360 (7 days)		
		Print lease agreement			10	10			
		Signature of witnesses	90		10	100			
		Pay Advance for renting the shop			10	10			
		Finish the day	45			45			
3	Gather Information	Visit DHO	45			45	480 (1 day)		
		Collect information		30	30	60			
		Finish the day	45			45			
4			90	30	60	180	7200 (15 days)		
		Obtain NTN	Apply -FBR			30		2400 (5 days)	1440 (3 days)
			Obtain NTN			10	10		
			Gather information	45			45		
			CNIC copy	20	5	10	35		
			Business stamp	90	30	60	180		

Get Registered with PCDA	Open Bank Account	Utility bill copy			10	10	9600 (20 days)	7200 (15 days)	
		NTN-FBR			30	30			
		Visit bank	45			45			
		Fill the form		30		30			
		Apply for bank account		15	30	45			
		Finish the day	45			45			
		Verification			30	30			
		Account opened			10	10			
	Affidavit	Collect stamp paper	10	20	10	40	480 (1 day)		
		Print affidavit		10	10	20			
		Obtain signature of witnesses	90	15	480	585			
		Notarize affidavit		10	10	20			
	Photo	Visit photo studio	90	60	10	160	480 (1 day)		
		Attestation	120	45	5	170			
	Attested copy of Matriculation	Copy degree	20	10	5	35	7200 (15 days)		
		Visit concerned Board	45			45			
		Submit Documents		150	30	180			
		Finish the day	45			45			
		Visit-2 to the Board (3days)	45			45			
		Collect attested degree		60	30	90			
		Finish the day	45			45			
		Online appointment IBCC		15	30	45			
		Visit National Bank for Challan to deposit fee	90	60	60	210			
Visit IBCC		45	120	60	225				
Finish the day		45			45				
Domicile Copy	Visit National Bank for challan to deposit fee	90	60	30	180	4800 (10 days)	3360 (7 days)		
	Prepare documents		120	120	240				
	Visit citizen facilitation center	45			45				
	Data entry/ Challan submission		60	60	120				

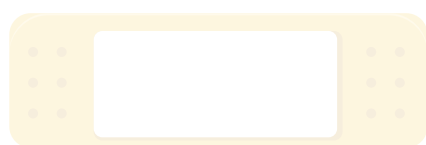
			Obtaining e-receipt		60	60	120		
			Finish the day	45			45		
			Revisit to collect domicile	90	15	10	115		
		Fee submission		90	45	15	150	9600 (20 days)	4800 (10 days)
		Application Submission				30	30		
		Check the status				30	30		
		Collect Certificate				30	30		
5	Prepare Documents to be Submitted along with application for license to operate a pharmacy	CNIC copy (4 copies)	Copy			5	5	3360 (7 days)	
			Attestation			5	5		
		Lease Agreement Copy	copy			5	5		
			Attestation			5	5		
		Affidavit	Collect stamp paper	10	20	10	40		
			Print affidavit		10	10	20		
			witnesses sign	90	15	480	585		
			Notarize affidavit		10	10	20		
		Photo	Visit photo studio			5	5		
			Attestation			5	5		
		D-pharmacy	Copy			5	5		
			Attestation			5	5		
		Copy of PCDA's certificate				5	5		
NTN-FBR				10	10				
Location plan and specification of the premises				30	30				
6	Submit Documents	Visit-2 DHO		45			45	480 (1 day)	480 (1 day)
		Submit application			30	30	60		
		Finish the day		45			45		
7	Inspection	Drug inspector visit		45			45		7200 (15 days)
		Inspection			30	5	35		
		Finish the day		45			45		
8	Inspector's Report	Report submitted by the inspector to DHO					0		3360 (7 days)
9	Collect License	Visit-4 DHO		45			45		3360 (7 days)
		Collect license			30	5	35		
		Finish the day		45			45		
							12.4	133	72

Table-2.4 (B) : Monetary and Opportunity in Setting-up a Pharmacy

No	Step	Description	Cost			Opportunity Cost	
			Travel	Fee	Total		
1	Find a shop	Visit the realtor	500		500	151.5	
		Indicate preferences for renting a shop			0	252.5	
		Finish the day	500		500	151.5	
		Visit-2 to the realtor	500		500	151.5	
		Site visit	500		500	454.5	
		Finish the day	500		500	151.5	
		Visit-3 to the realtor	500		500	151.5	
		Meet the owner			0	454.5	
		Finish the day	500		500	151.5	
2	Lease Agreement	Collect the stamp paper	500	150	650	252.5	
		Print lease agreement		100	100	33.7	
		Obtain signature of witnesses			0	336.7	
		Pay Advance for renting the shop		45,000	45,000	33.7	
		Finish the day	500		500	151.5	
3	Gather Information	Visit DHO	500		500	151.5	
		Collect information			0	202.0	
		Finish the day	500		500	151.5	
4	Get Registered with PCDA	Gather Information	500		500	606.0	
		Obtain NTN	Apply -FBR			0	101.0
			Obtain NTN			0	33.7
		Open Bank Account	Gather information	500		500	151.5
			CNIC copy	500	10	510	117.8
			Business stamp	500	1,000	1,500	606.0
			Utility bill copy		10	10	33.7
			NTN-FBR		10	10	101.0
			Visit bank	500		500	151.5
			Fill the form			0	101.0
			Apply for bank account			0	151.5
			Finish the day	500		500	151.5
			Verification			0	101.0
		Account opened			0	33.7	
		Affidavit	Collect stamp paper	500	150	650	134.7
Print affidavit			100	100	67.3		

			Obtain signature of witnesses			0	1,969.5
Get Registered with PCDA			Notarize affidavit		200	200	67.3
	Photo		Visit photo studio	1,000	500	1,500	538.7
			Attestation			0	572.3
	Attested copy of Matriculation		Copy degree	500	10	510	117.8
			Visit concerned Board	1,000		1,000	151.5
			Submit Documents		500	500	606.0
			Finish the day	500		500	151.5
			Visit-2 to Board (3days)	500		500	151.5
			Collect attested degree			0	303.0
			Finish the day	500		500	151.5
			Book Online appointment with IBCC			0	151.5
			Visit National Bank for Challan fee deposit	500		500	707.0
			Visit IBCC	500	600	1,100	757.5
		Finish the day	500		500	151.5	
	Domicile copy		Visit National Bank for challan fee deposit	500		500	606.0
			Prepare documents		200	200	808.0
			Visit citizen facilitation center	500		500	151.5
			Data entry/ Challan submission			0	404.0
			Obtaining e-receipt			0	404.0
			Finish the day	500		500	151.5
			Revisit to collect domicile	500		500	387.2
		Fee submission		6,000	6,000	505.0	
		Application Submission			0	101.0	
		Check the status			0	101.0	
		Collect Certificate	500		500	101.0	
	CNIC copy (4 copies)	Copy	500	40	540	16.8	
		Attestation			0	16.8	
	Lease Agreement Copy	copy		10	10	16.8	
Attestation				0	16.8		

5	Prepare Documents to be submitted along with application for license to operate a pharmacy	Affidavit	Collect stamp paper		150	150	134.7
			Print affidavit		100	100	67.3
			Obtain signatures of witnesses			0	1,969.5
			Notarize affidavit		200	200	67.3
		Photo	Visit photo studio	1000	500	1,500	16.8
			Attestation			0	16.8
		D-pharmacy	Copy		10	10	16.8
			Attestation			0	16.8
		Copy of PCDA's certificate				0	16.8
		NTN-FBR			10	10	33.7
Location plan and specification of the premises			100	100	101.0		
6	Submit Documents	Visit-2 DHO	500		500	151.5	
		Submit application			0	202.0	
		Finish the day	500		500	151.5	
7	Inspection	Drug inspector's visit			0	151.5	
		Inspection			0	117.8	
		Finish the day			0	151.5	
8	Inspector Report	Report submitted by the inspector to DHO			0	0.0	
9	Collect License	Visit-4 DHO	500		500	151.5	
		Collect license			0	117.8	
		Finish the day	500		500	151.5	



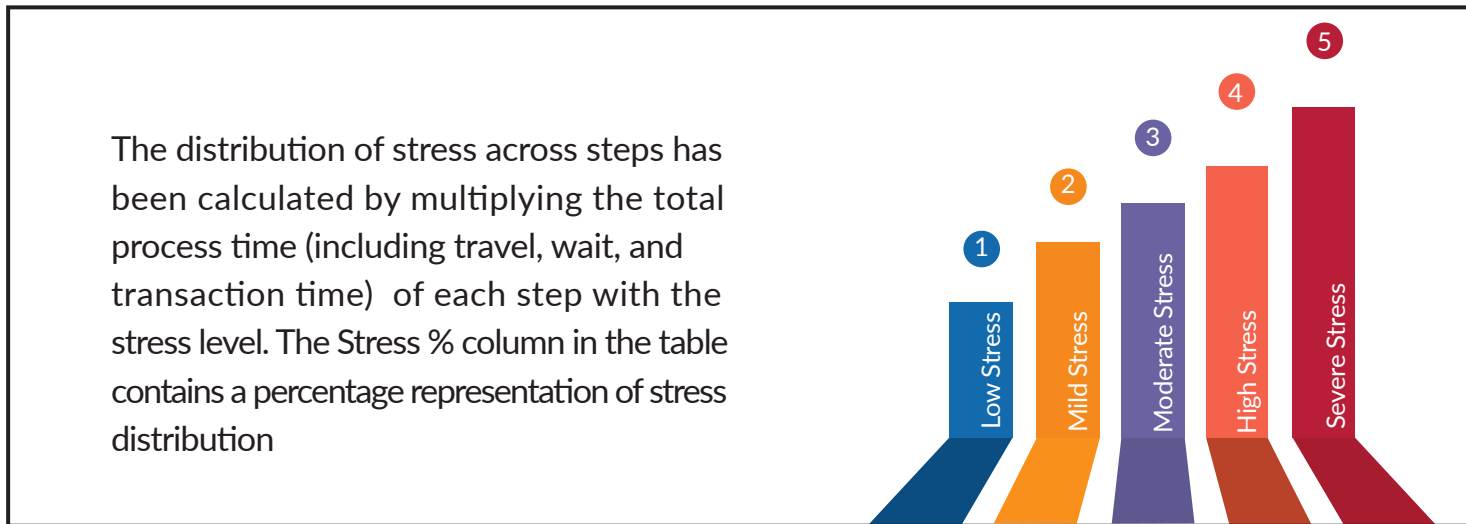


Table-2.4 (C) : Stress Level in setting-up a Pharmacy

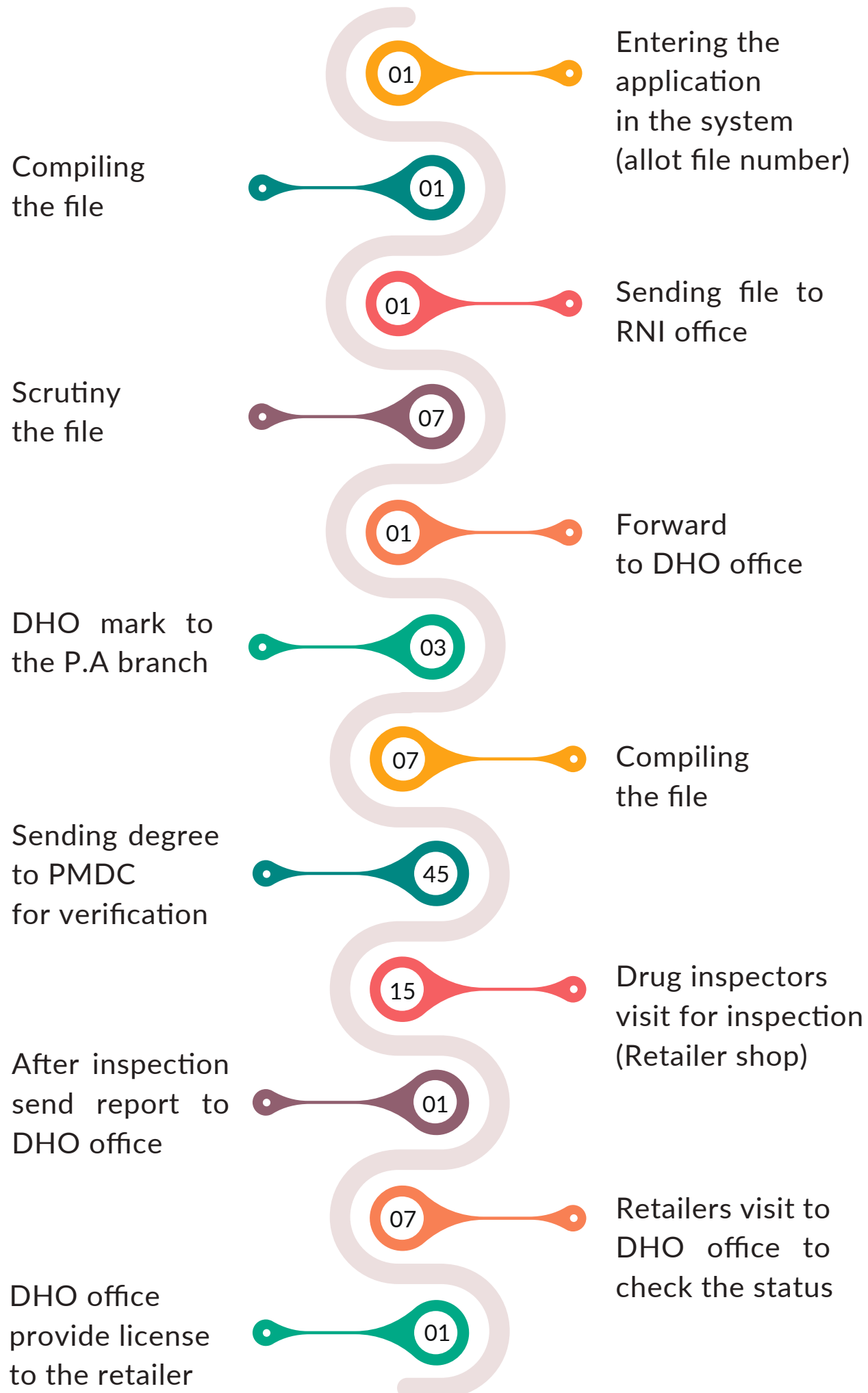
No	Step	Description	Stress Level	Stress %	
1	Find a Shop	Visit the realtor	2	0.4	
		Preferences Indication	4	1.3	
		Finish the day	2	0.4	
		Visit-2: the realtor	1	0.2	
		Site visit	4	2.4	
		Finish the day	1	0.2	
		Visit-3 the realtor	2	0.4	
		Meet the owner	5	3.0	
		Finish the day	2	0.4	
2	Lease Agreement	Collect the stamp paper	2	0.7	
		Print lease agreement	5	0.2	
		Obtain signature s of witnesses	5	2.2	
		Pay advance money	4	0.2	
		Finish the day	2	0.4	
3	Gather Information	Visit DHO	2	0.4	
		Collect information	4	1.1	
		finish the Day	2	0.4	
4	Get Register with PCDA	Gather Information	2	1.6	
		Obtain NTN	Apply- FBR	4	0.5
			Obtain NTN	4	0.2
		Open Bank Account	Gather Information	2	0.4
			CNIC copy	2	0.3
			Buisness stamp	3	2.4
			Utility bill copy	1	0.0
			NTN-FBR	1	0.1
Visit bank	2	0.4			

			Fill the form	4	0.5
			Apply for bank account	5	1.0
			Finish the day	2	0.4
			Verification	4	0.5
			Account opened	1	0.0
	Affidavit		Collect stamp paper	4	0.7
			Print affidavit	4	0.4
			Witnesses sign	5	12.9
			Notarize affidavit	5	0.4
	Photo		Visit Photo studio	2	1.4
			Attestation	5	3.8
	Attested copy of Matriculation		Copy drgree	2	0.3
			Visit concerned Board	2	0.4
			Submit documents	5	4.0
			Finish the Day	2	0.4
			Visit-2 to Board (3 days)	2	0.4
			Collect attested degree	4	1.6
			finish the Day	2	0.4
			Online Appointment IBCC	5	1.0
			Visit National Bank for Challan	5	4.6
			Visit IBCC	5	5.0
			Finish the Day	1	0.2
		Domicile copy		Visit National Bank for challan	2
			Prepare documents	5	5.3
			Visit citizen facilitation center	5	1.0
			Data entry/ Challan submission	5	2.6
			Obtaining e-receipt	3	1.6
			Finish the dy	2	0.4
			Revisit to collect domicile	3	1.5
			Fee submission	5	3.3
		Application Submission	5	0.7	
		Check the status	5	0.7	
		Certificate reception	5	0.7	
5	Prepare Documents	CNIC copy (4 copies)	Copy	2	0.0
			Attestation	5	0.1
		Lease Agreement Copy	Copy	2	0.0
			Attestation	5	0.1

			Collect stamp paper		4	0.7
		Affidavit	Print affidavit		5	0.4
			witnesses sign		5	12.9
			Notarize affidavit		4	0.4
			Photo	Visit photo studio		2
		Attestation			5	0.1
		D-pharmacy	Copy		5	0.1
			Attestation		2	0.0
			Copy of PCDA's certificate		2	0.0
			NTN-FBR		2	0.1
			Location plan and specification of the premises		4	0.5
6	Submit Documents		Visit-2 DHO		2	0.4
			Submit application		5	1.3
			Finish the day		2	0.4
7	Inspection		Drug inspector visit		2	0.4
			Inspection		5	0.8
			Finish the day		1	0.2
8	Inspector Report		Report submitted by inspector to DHO		1	0.0
9	Get License		Visit-4 DHO		2	0.4
			Get license		3	0.5
			Finish the day		1	0.2



Table-2.4 (D) : Steps Involved in Setting- up a Pharmacy (As per Official Claim)



SLUDGE FROM OTHER SECTORS ●

- Recruitment through the Federal Public Service Commission (FPSC).
- Pension: Kick-off Process.
- Setting-up a Petrol PumpSetting-up a Pharmacy.
- Trade License.



3.1

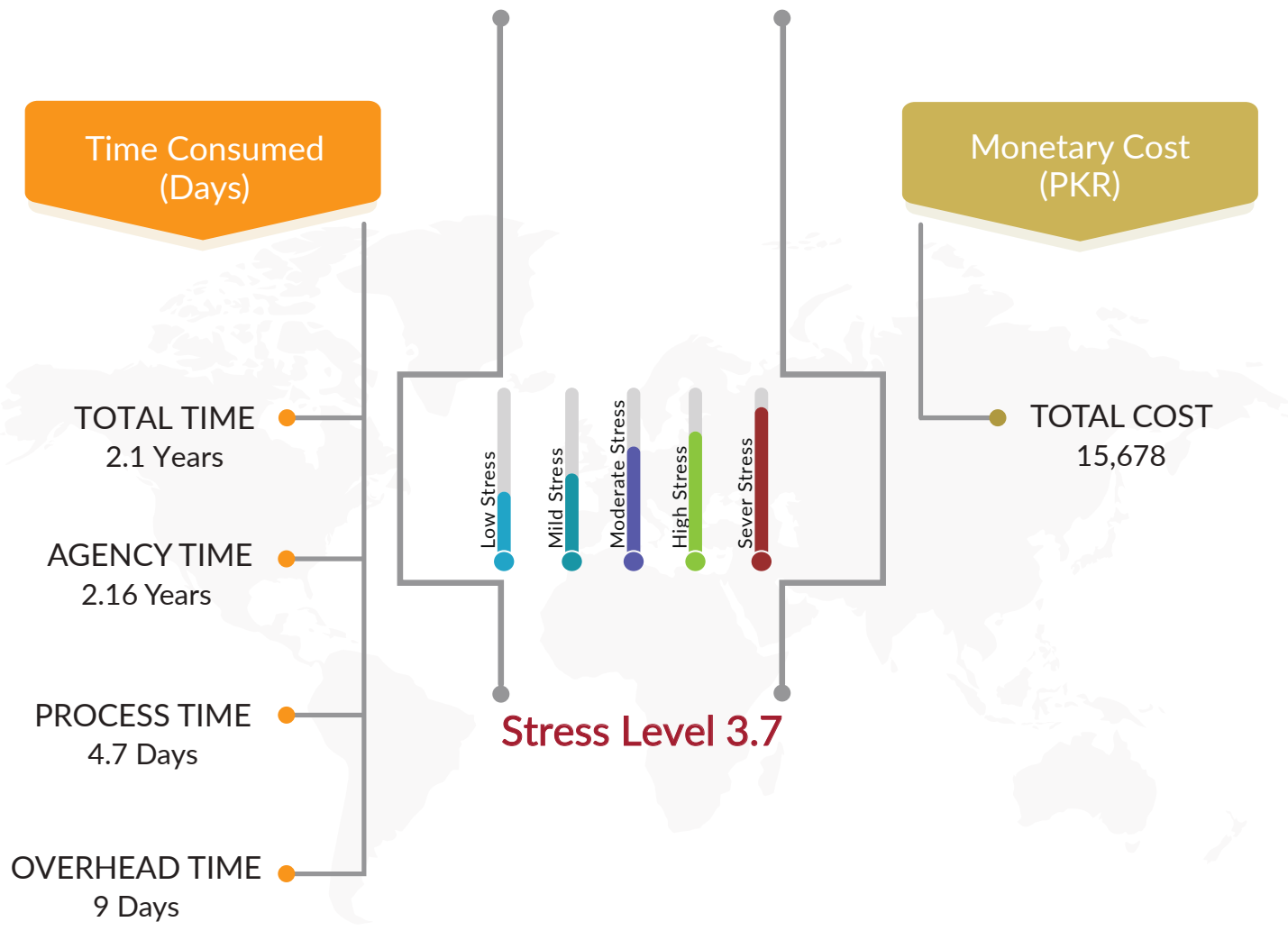
RECRUITMENT THROUGH THE FEDERAL PUBLIC SERVICE COMMISSION (FPSC)

The Federal Public Service Commission has been mandated to conduct tests and examinations for the recruitment of persons in civil posts in connection with affairs of the Federation in basic scales 16 and above or equivalent.

THE PROCESS OF FPSC'S RECRUITMENT



COSTS OF THE SLUDGE



DEFINITIONS

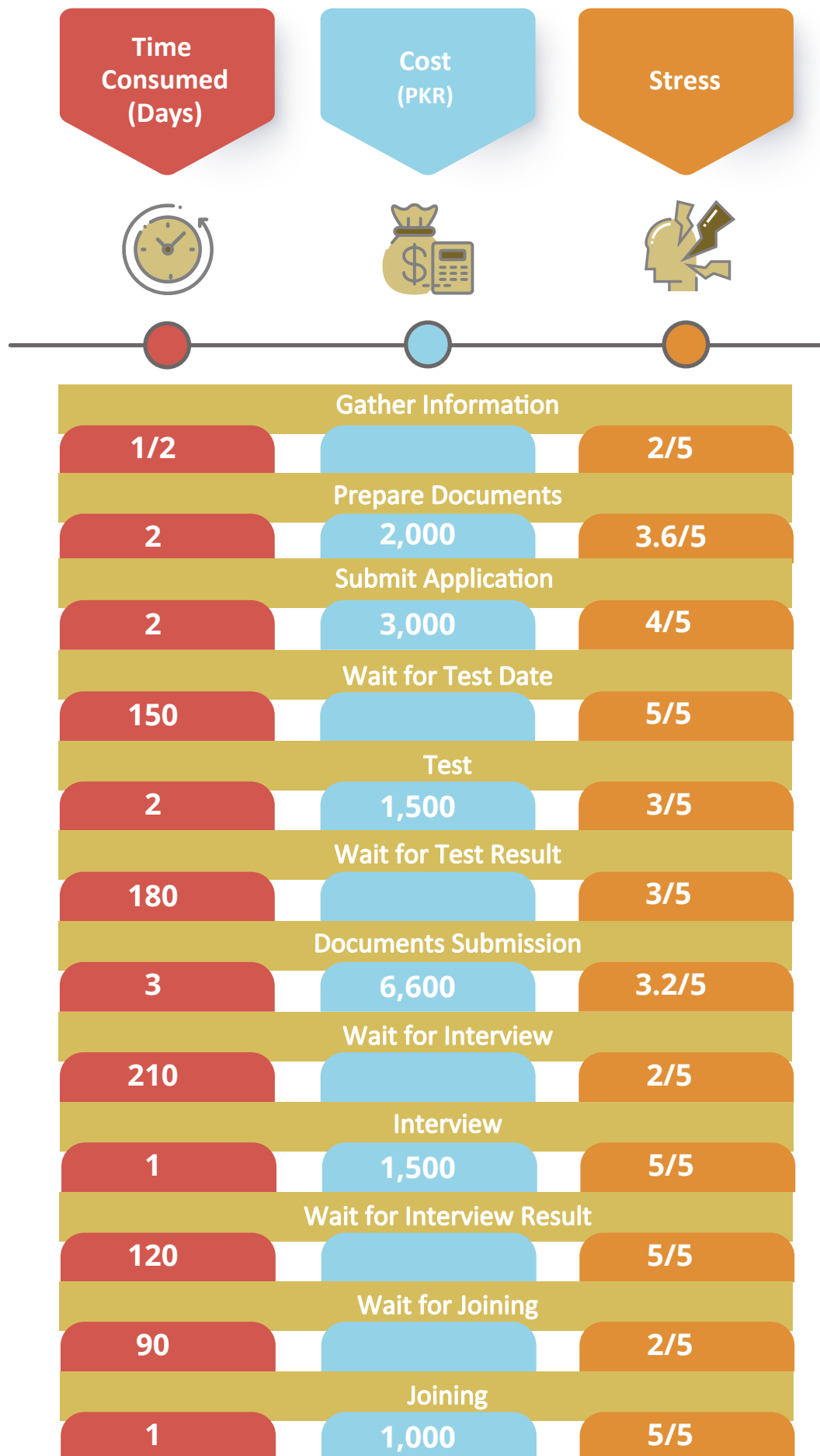
Agency Time

The time consumed by the department/agency concerned in processing an activity.

Overhead Time

Part of the day was lost due to being involved in this activity for a fraction of the day.

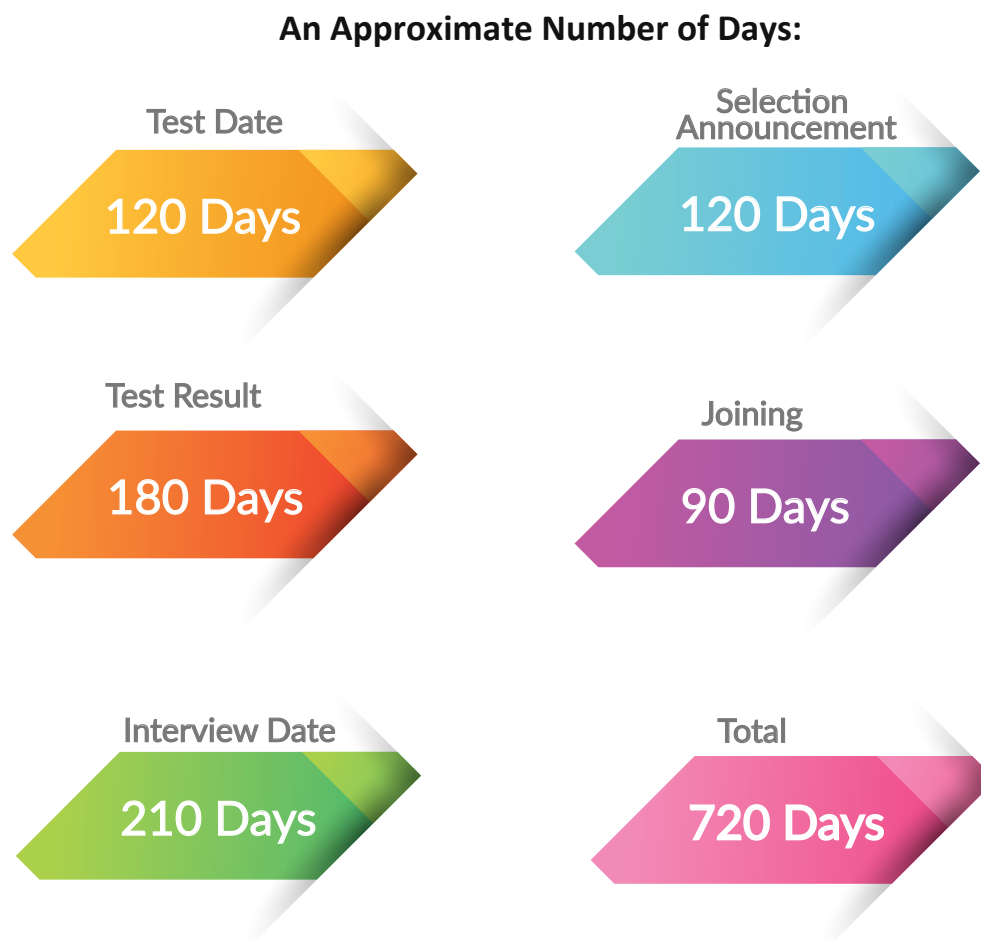
CHART-3.1 (A) : FPSC's RECRUITMENT PROCESS



SOURCES OF THE SLUDGE

1 The selection process for the job applications of different kinds processed by the Federal Public Service Commission is extremely time-consuming – the process involving; test and interview consumes over two years.

2 The candidates spend most of this time waiting for the following:



3 The primary issue is centralization – selection process of several jobs is conducted together.

For comparison, the time taken by the Civil Service Commission in New Jersey, USA to process similar recruitment is given below

**Civil Service Commission
New Jersey, USA**
4-5 Months

- Online application submission
 - Documents
 - Application form
 - CV
 - Personal statement
 - Fee (\$15)
- Application Scrutiny. (1 month)
- Online Test. (1 month)
- Online Interview. (1 month)

Table-3.1 (A) : Steps involved and Time Consumed in FPSC Recruitment

No	Step		Time (minutes)				Overhead	Agency
			Travel	Waiting	Transaction / Process	Total		
1	Gather Information (advertisement)				30	30	240 (1/2 day)	
2	Prepare Documents	CNIC scan	90	10	5	105	480 (1 day)	
		Degree scan			20	20		
		Domicile scan			5	5		
3	Fill online form			20	120	140	240 (1/2 day)	
4	Challan submission	Pay Challan Form	45	10	5	60	240 (1/2 day)	
		Visit National Bank	90			90		
		Pay Challan form		30	10	40		
		Scan	90		5	95		
		Upload			5	5		
5	Wait for test date					0		72000 (150 days)
6	Print Roll Number Slip		90	10	10	110		
7	Visit Test Center		90	60		150	480 (1 day)	
8	Attempt Test			30	120	150		
9	Wait for result announcement							86400 (180 days)

10	Recieve Result				30	30		
11	Prepare Documents	CNIC	Copy	45	10	5	60	480 (1 day)
			Attestation	120	45	5	170	
		Domicile	Copy			5	5	
			Attestation			5	5	
		Degrees	Copy			20	20	
			Attestation			5	5	
12	Post Documents		90	30	30	150	480	
13	Wait for interview call							100800 (210 days)
14	Interview Call				10	10		
15	Visit the Center for Interview		90	240	30	360	480 (1 day)	
16	Wait for recommendation							57600 (120 days)
17	List of selected Candidates				10	10		
18	Join		45	30	60	135	480 (1 day)	43200 (90 days)
Total Time (Days)						4.1	7.5	750

Table-3.1 (B) : Monetary and Opportunity Cost in FPSC Recruitment

No	Step		Cost			Opportunity Cost	
			Travel	Fee	Total		
1	Gather Information (advertisement)				0	101.0	
2	Prepare Documents	CNIC scan	1,000	10	1,010	353.5	
		Degree scan		10	10	67.3	
		Domicile scan	500		500	16.8	
3	Fill online form				0	471.3	
4	Challan submission	Pay Challan Form	500	10	510	202.0	
		Visit National Bank	1,000		1,000	303.0	
		Pay Challan form		300	300	134.7	
		Scan		10	10	319.8	
		Upload			0	16.8	
5	Wait for test date				0	0.0	
6	Print Roll Number Slip		500	10	510	370.3	
7	Visit Test Center		1,000		1,000	505.0	
8	Attempt Test				0	505.0	
9	Wait for result announcement				0	0.0	
10	Recieve Result				0	101.0	
11	Prepare Documents	CNIC	Copy	1,000	10	1,000	202.0
			Attestation			0	572.3
		Domicile	Copy		10	10	16.8
			Attestation			0	16.8
		Degrees	Copy		10	10	67.3
			Attestation			0	16.8
12	Post Documents		1,000	200	1,200	505.0	
13	Wait for interview call				0	0.0	
14	Interview Call				0	33.7	
15	Visit the Center for Interview		1,000		1,000	1,212.0	
16	wait for recommendation				0	0.0	
17	List of selected Candidates				0	33.7	
18	Join		1,000		1,000	454.5	
Total Cost					9,080	6,598.7	

The distribution of stress across steps has been calculated by multiplying the total process time (including travel, waiting, and transaction time) of each step with the stress level. The Stress % column in the table contains a percentage representation of stress distribution

Table-3.1 (C) : Stress Level in FPSC Recruitment Process

No	Step		Stress Level	Stress %	
1			2	0.8	
2	Prepare Documents	CNIC scan	3	3.9	
		Degree scan	3	0.8	
		Domicile scan	5	0.3	
3	Fill online form		5	8.8	
4	Challan submission	Pay Challan Form	5	3.8	
		Visit National Bank	5	5.6	
		Pay Challan form	5	2.5	
		Scan	2	2.4	
		Upload	2	0.1	
5	Wait for test date		5	0.0	
6	Print Roll Number Slip		3	4.1	
7	Visit Test Center		2	3.8	
8	Attempt Test		5	9.4	
9	Wait for result announcement		3	0.0	
10	Recieve Result		3	1.1	
11	Prepare Documents	CNIC	Copy	2	1.5
			Attestation	4	8.5
		Domicile	Copy	2	0.1
			Attestation	4	0.3
		Degrees	Copy	2	0.5
			Attestation	4	0.3
12	Post Documents		5	9.4	
13	Wait for interview call		2	0.0	
14	Interview Call		5	0.6	
15	Visit the Center for Interview		5	22.5	
16	wait for ecommendation		2	0.0	
17	List of selected Candidates		5	0.6	
18	Join		5	8.4	

Table-3.1 (D): Steps and Time Involved in Processing Applications within FPSC

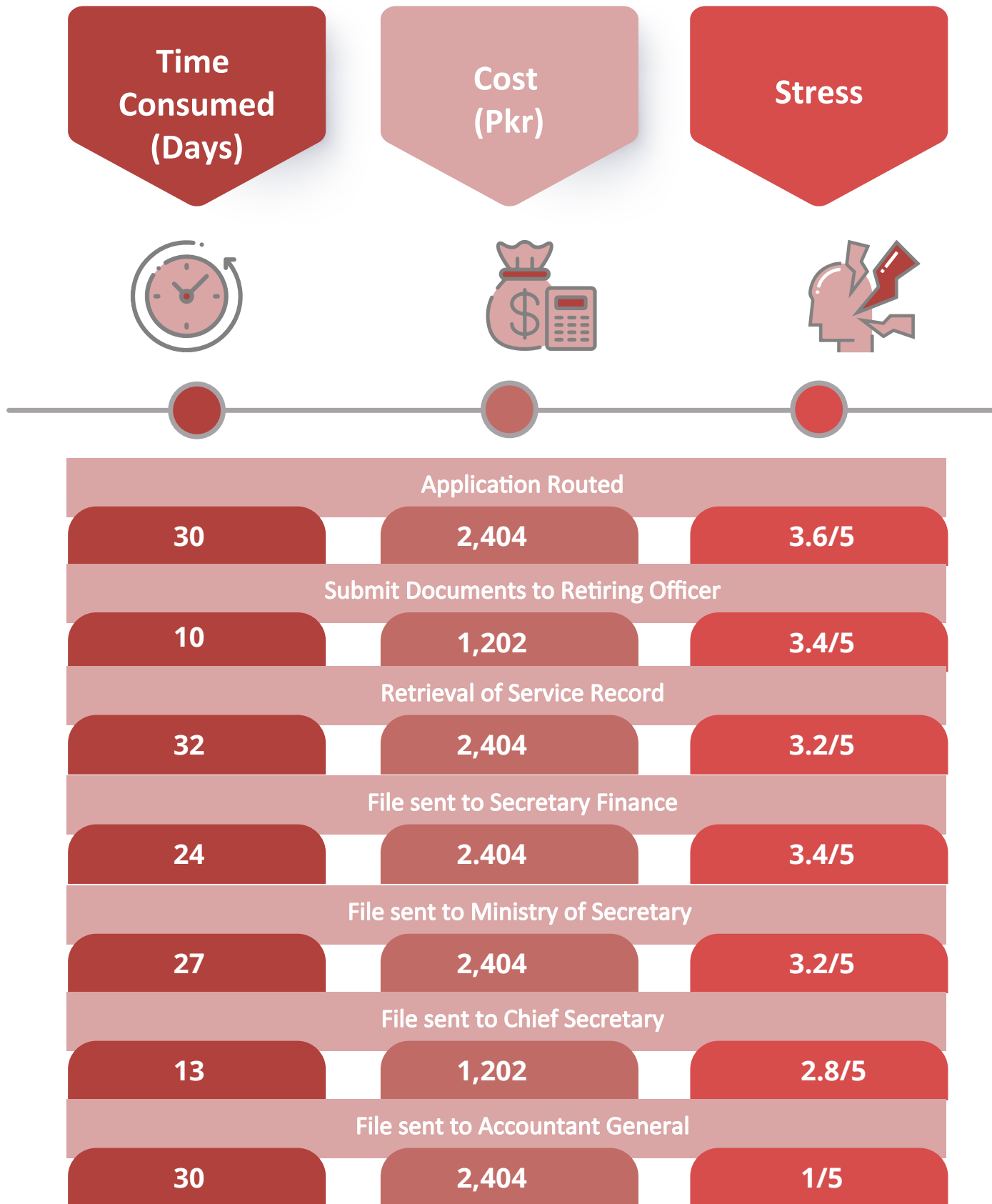
STEPS	Description	Time (Days)
01	Advertisement of Vacancies (Three different advertisements processed together)	90
02	Syllabus for test	30
03	Further arrangement	30
04	Conducting Test	07
05	Grading Test	120
06	Result Preparation	60
07	Selection of panel for interview	90
08	Conducting interviews	120
09	Recommendation	120
10	Joining	120



3.2

PENSION: KICK-OFF PROCESS

CHART-3.2 (A) : KICKING OFF THE PENSION



TIME CONSUMED IN PAYMENT OF PENSION DUES

It takes an employee an average of around six months to get pension dues for the first time after retirement. The delay in getting pension dues is a source of high stress (3.8/5) for the retired employee and the family concerned.



Sources of Sludge



Retrieval of Service Records

The biggest source of sludge in getting pension dues at the time of retirement comes from the retrieval of service records. An employee has served in several departments/offices – at times even outside the province of his original employment, during his/her entire service. Given how records are maintained, retrieving service record from the departments/offices where an employee has served, at times becomes a nightmare



Excessive Hierarchy

Excessive hierarchy, and approval of even petty things at the level of the Secretary of the ministry concerned – this includes the issuance of retirement letter and allowing transmission of submitted documents to another department for verification.

COST OF THE SLUDGE

01

FOREGONE INTEREST

The delay in payment of pension, especially the lump sum commutation, has an opportunity cost in the sense that use that the employee would like to make good use of the lump sum amount gets delayed. Suppose the employee has to receive Rs. 1.0 million in a lump sum at the time of retirement. Assuming that he/she would like to place the money in the certificates of National Savings Account that pay profit @ 10% per annum. Assuming that the payment of pension is delayed by 6 months, then this would cost the retired employee Rs.500,000/- in terms of interest income/profit lost.

02

RENTAL COST

If he/she is living in rented accommodation and wants to use the money for constructing/owning a home where he/she would move in. but due to sludge, he/she has to bear the rental cost for extra 6 months. Based on the average rental value of a 5 marla house in Islamabad, the rental cost will be around Rs. 420,000.

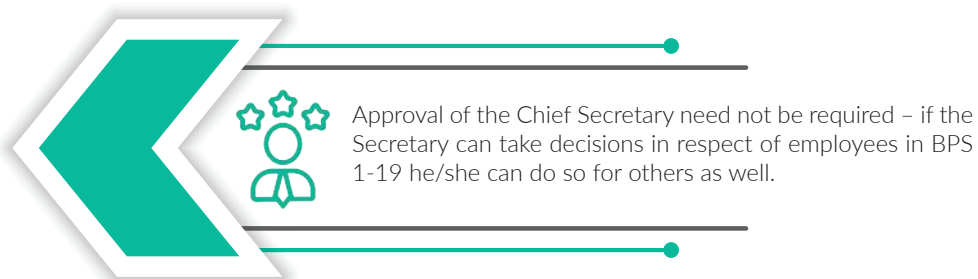
03

CONSTRUCTION COST

The appreciation in construction cost/real estate prices is the opportunity cost of delayed payment. The delays in obtaining pension proceed for 6 months can cost around 4.99% increase in the construction cost, keeping in view the current price hike in the construction industry.

CUTTING THE SLUDGE

1- ELIMINATING UNNECESSARY STEPS



Budget provision can be made based on the date of retirement as per record (the likelihood of deviations is smaller). The budgetary provision thus prepared would be slightly on the higher side as some of the employees retiring e.g., in 2022 may not manage to get the pension approval processed.



2-DIGITIZATION



RETRIEVAL OF SERVICE RECORD

All documents in respect of an employee be placed in the electronic/digitized personal folder of employees as well as in a data bank – this will make retrieval easier, and the chances of loss will be lesser. Rather than asking the retiring employee to submit required documents, the documents be retrieved from the digitized personal folder/data bank and be shared with the employee for verification. Any discrepancy can be sorted out - thus the DG health step can be eliminated or at least the time is taken in covering this step can be reduced significantly.

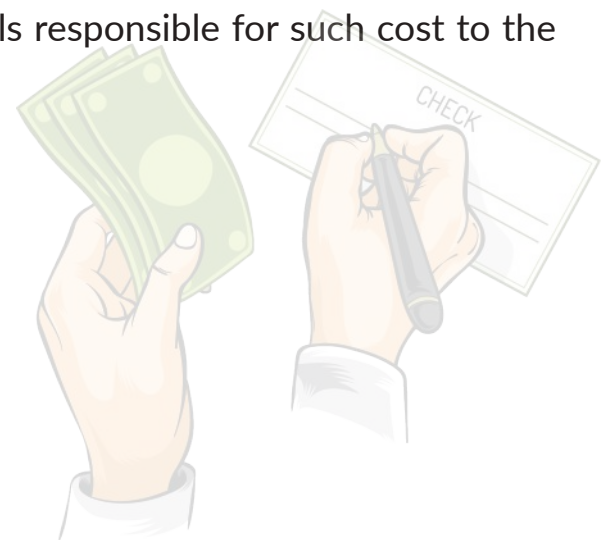
FURTHER SUGGESTIONS

Ideally, the process of estimating pension dues and approving payment should start at least six months before the retirement of an employee – many things can be sorted out more efficiently while the employee is on the job and easily accessible.

TARGET:

The cheque of retirement benefits/pension dues is handed over to the retiring employee during his/her last week in the office at a farewell arranged by the department/entity concerned. Failure to comply with the target should attract adverse performance reviews for the officers/authorities concerned. (This will help make things move faster).

To facilitate faster payments, make it a legal right of the retired employee that pension dues shall be paid him/her latest by the first day of his retirement. The employee should be paid interest @ KIBOR for a delayed on the lump sum amount due. This cost born for delayed payments will make things move faster in government. This will also cause taking to task the officials responsible for such cost to the government



COST OF THE SLUDGE IN TERMS OF GDP

To assess the impact of the cost of regulation on the economy, we translate the cost of sludge in kick-off the pension process (94% of gratuity) in terms of GDP. The task is performed by gathering information related to the average cost of sludge faced by a retiring official and the number of cases processed by the Accountant General Pakistan Revenues (AGPR).

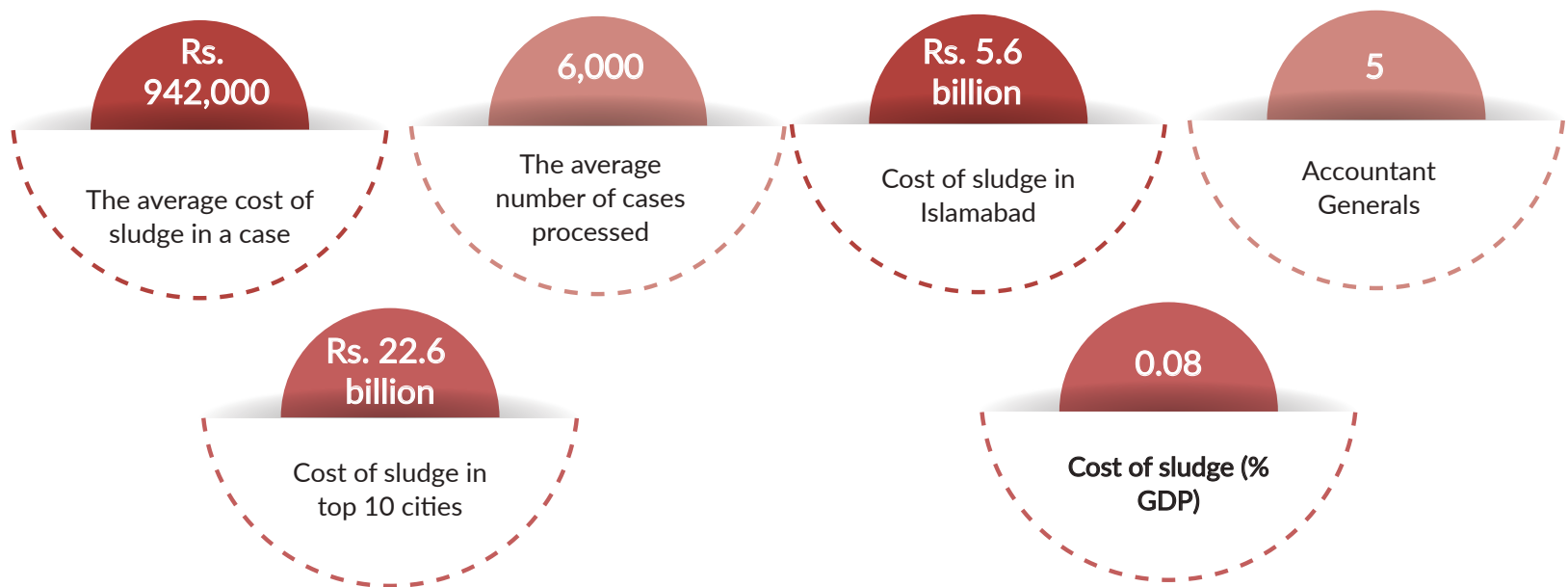


Table-3.1 (A) : Steps and Cost Involved in Kicking-off the Pension

No	Step	Description	Time Taken (Days)	No. of Trips	Travelling Cost	Opportunity Cost
1	Application submitted by the retiring employee for issuance of retirement letter	Diary Section	1	2 Trips	1000 1000	202 202
		Section Office	15			
		Dy. Secretary	5			
		Additional Secretary	4			
		DG/Secretary	5			
2	Documents submitted by the retiring officer	Diary Section	1	1 Trips	1000 1000	202
		Section Office	3			
		Dy. Secretary	3			
		Additional Secretary	2			
		Secretary	1			
3	Director General Health – for retrieval of service record: Place of postings, leave status, Move overs (if any)	Diary Section	1	2 Trips	1000 1000	202 202
		Section Office	20			
		Dy. Secretary	5			
		Additional Secretary	3			
		Secretary	3			
4	File sent to Finance Division for provision of budget	Diary Section	1	2 Trips	1000 1000	202 202
		Section Office	15			
		Dy. Secretary	5			
		Additional Secretary	2			
		Secretary	3			
5	File sent to secretary Health (for approval pension)	Diary Section	1	2 Trips	1000 1000	202 202
		Section Office	15			
		Dy. Secretary	5			
		Additional Secretary	3			
		Secretary	3			
6	File sent to Chief Secretary (for approval of pension of BPS 20 & above)	Diary Section	1	1 Trips	1000	202
		Section Office	3			
		Dy. Secretary	4			
		Chief Secretary	5			
7	File Sent to Accountant General for Payment of Pension Dues		30	2 Trips	2000	404
Total			168	12	12,800	2,42

Table-3.2 (B) : Stress Level in Kicking-off the Pension

No	Step	Description	Stress Level	Weighted Stress
1	Application submitted by the retiring employee for issuance of retirement letter	Diary Section	4	1.0
		Section Office	2	7.1
		Dy. Secretary	4	4.8
		Additional Secretary	4	3.8
		DG/Secretary	4	4.8
2	Documents submitted by the retiring officer	Diary Section	4	1.0
		Section Office	3	2.1
		Dy. Secretary	3	2.1
		Additional Secretary	3	1.4
		Secretary	4	1.0
3	Director General Health - for retrieval of service record: Place of postings, Leave Status, Move overs (if any)	Diary Section	3	0.7
		Section Office	2	9.5
		Dy. Secretary	3	3.6
		Additional Secretary	4	2.9
		Secretary	4	2.9
4	File sent to Finance Division for provision of budget	Diary Section	3	0.7
		Section Office	3	10.7
		Dy. Secretary	3	3.6
		Additional Secretary	4	1.9
		Secretary	4	2.9
5	File sent to secretary Health (for approval pension)	Diary Section	3	0.7
		Section Office	2	7.1
		Dy. Secretary	3	3.6
		Additional Secretary	4	2.9
		Secretary	4	2.9
6	File sent to Chief secretary (for approval of pension BPS 20 & above)	Diary Section	4	1.0
		Section Office	2	1.4
		Dy. Secretary	3	2.9
		Chief Secretary	2	2.4
7	File sent to Accountant General for Payment of Pension Dues		1	7.1

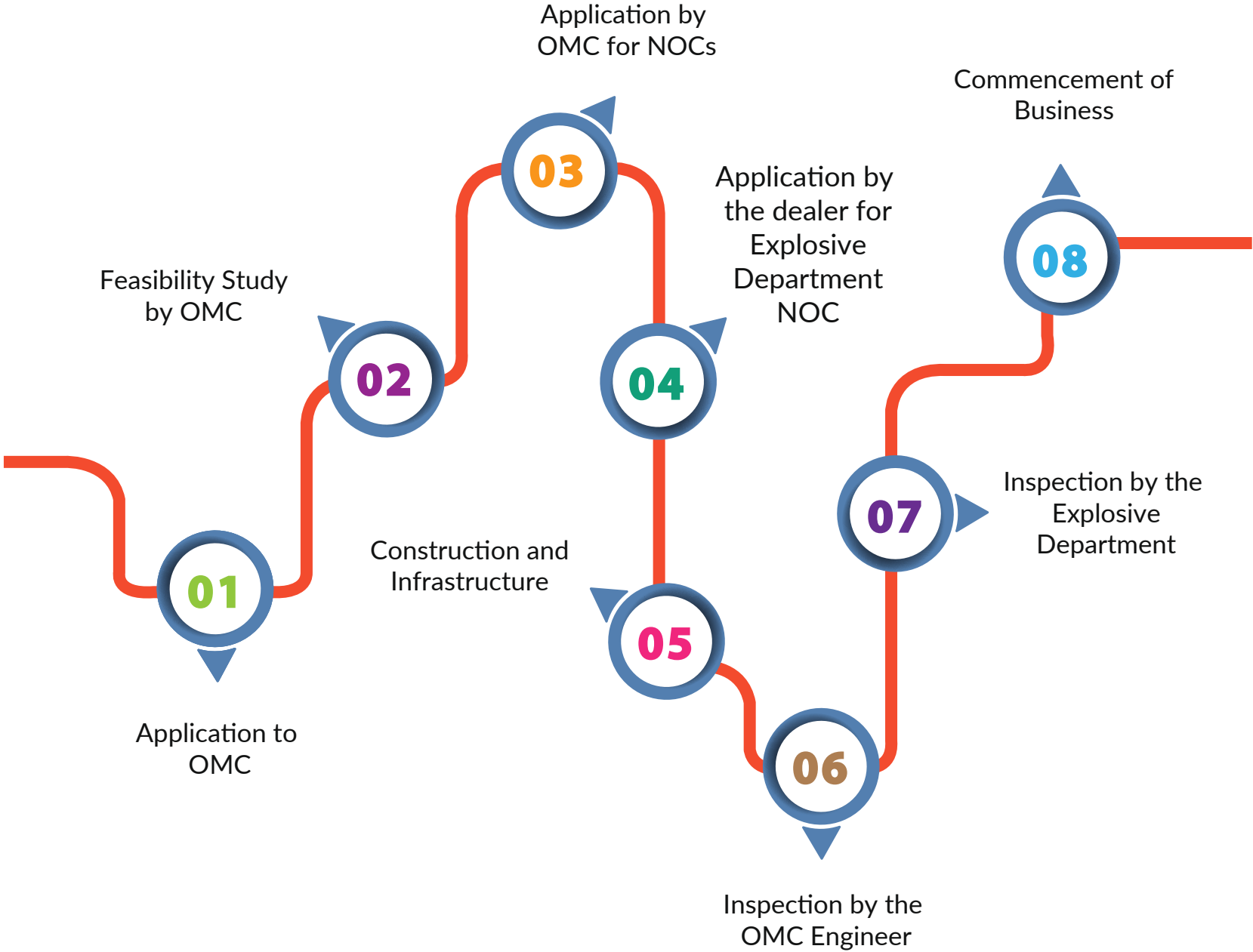




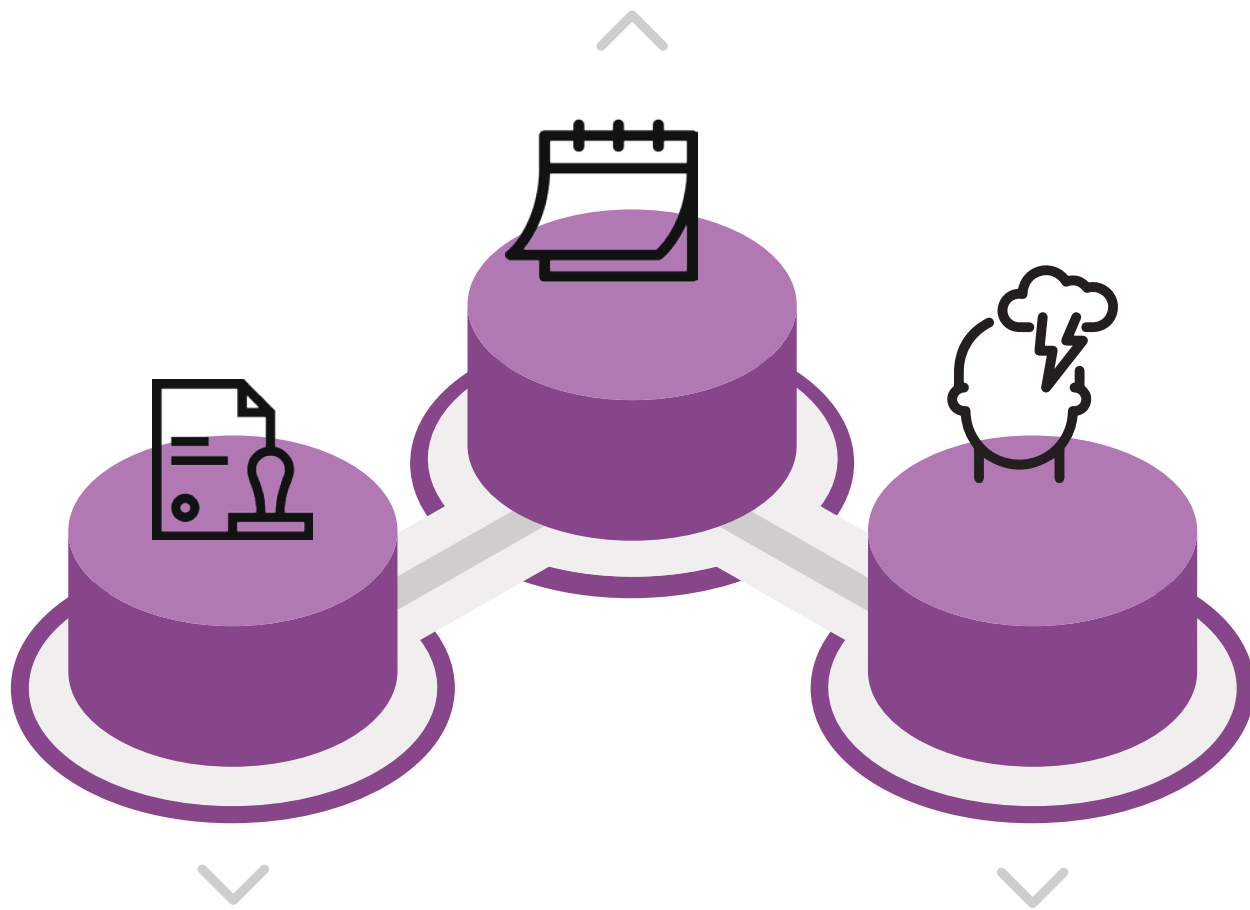
3.3

SETTING-UP A PETROL PUMP

THE PROCESS OF SETTING-UP A PETROL PUMP



The cost of sludge that is involved in obtaining permission can be up to 8.2 % of the project value.



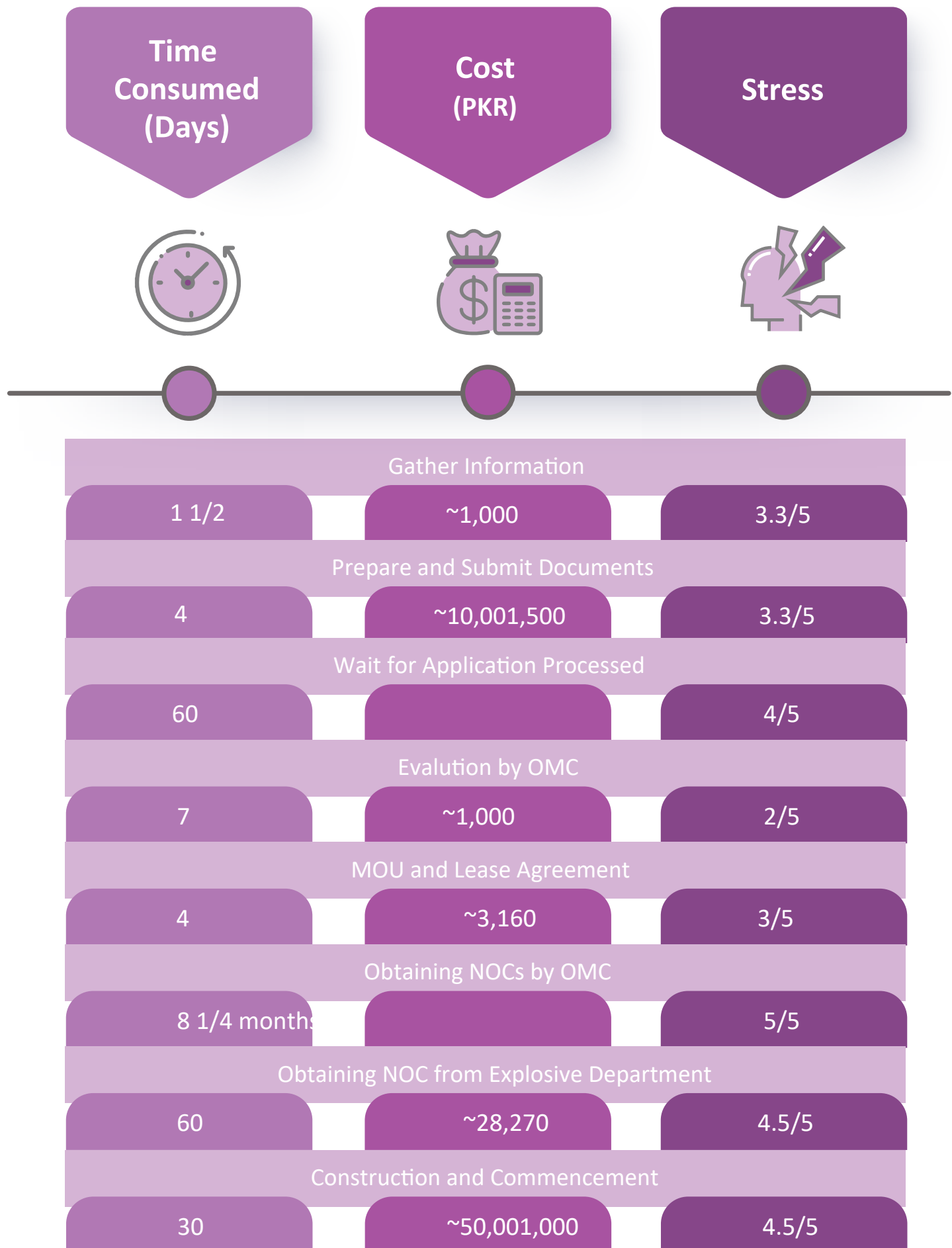
The process of obtaining permission to set up a petrol pump consumes more than 1 year.

The process involves a high-stress level (4/5).



The sludge involved in obtaining permission to set up a pharmaceutical unit cost the economy around 0.01% of GDP.

CHART-3.3 (A) : SETTING-UP A PETROL PUMP



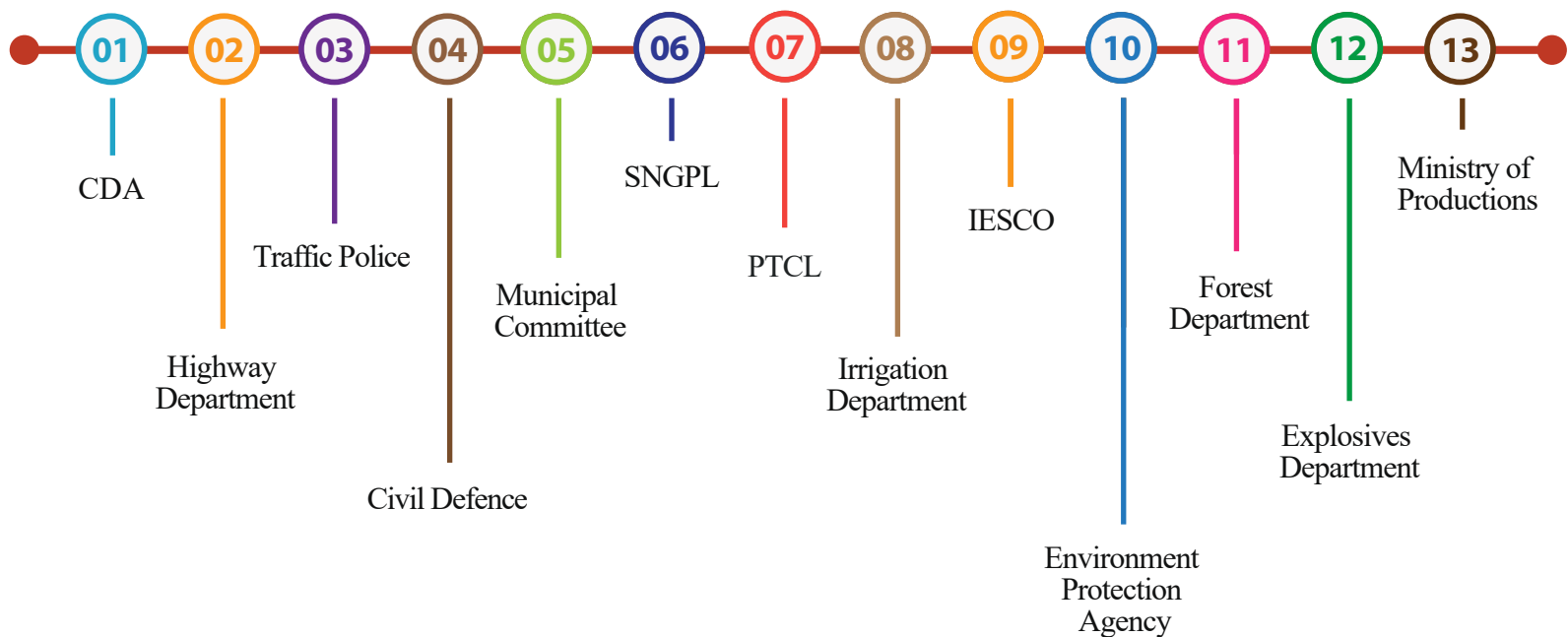
SOURCES OF THE SLUDGE



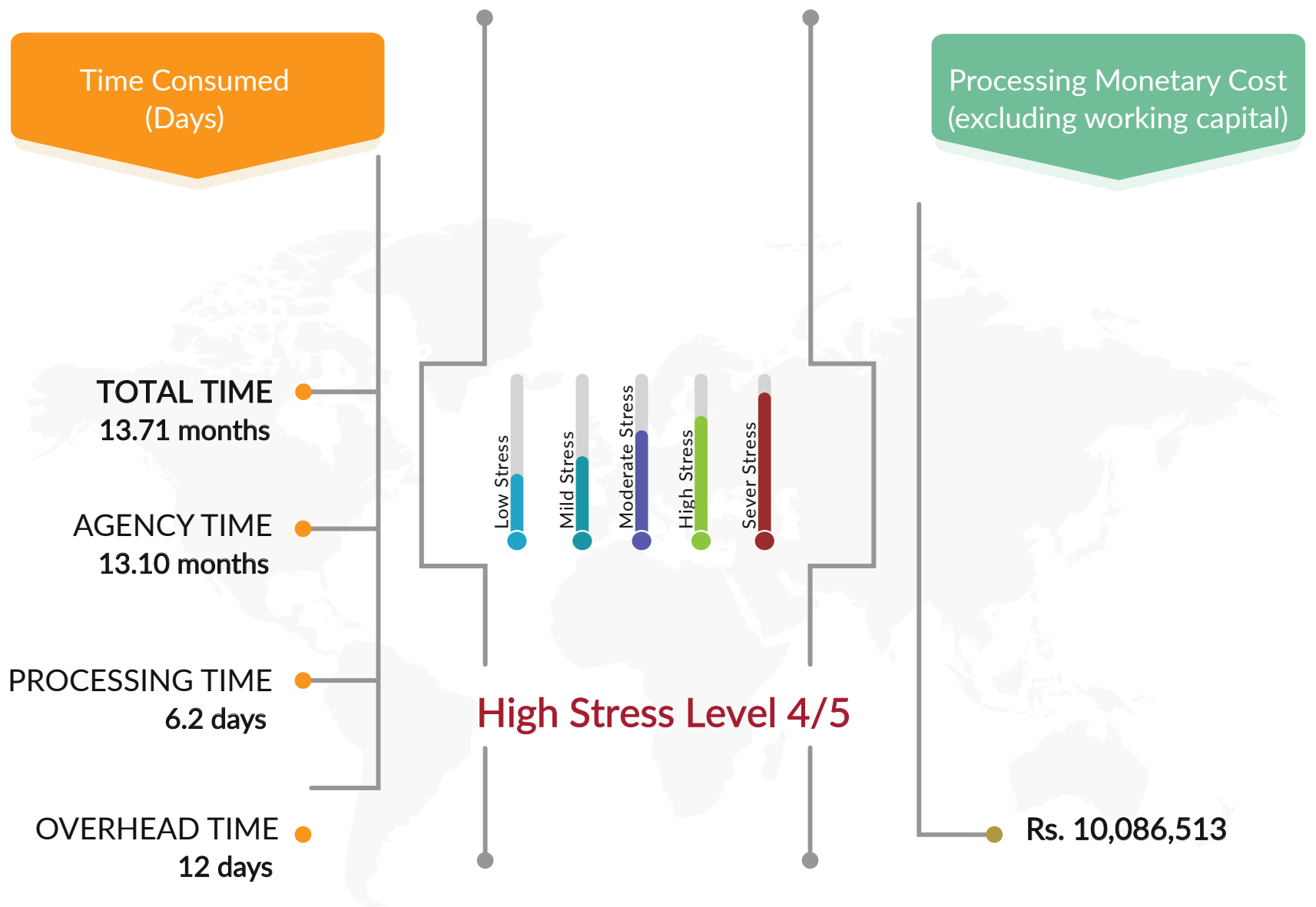
The OMCs take around two months to process the application for setting up a petrol pump. This is too long a period.



NOCs from a host of government agencies begins – NOCs from the following 14 different agencies are required:



Seeking most of the NOCs consumes around three weeks each – in total, these NOCs consume around 42 weeks, with just the NOC from the Explosive Department consuming as much as 8 weeks.



Agency Time:

The time consumed by the department/agency concerned in processing an activity.

Overhead Time:

Part of the day lost due to being involved in this activity for a fraction of the day.

COST OF THE SLUDGE

01 Foregone Income Due to Financial Security

The dealership license requirements set by the OMCs also involved a hefty amount to be submitted as security money at the time of application.

On average the amount required is around Rs. 10,000,000. However, the process takes more than one year, and the amount submitted within OMC could have been used alternatively to generate revenue. This opportunity cost has been captured by assuming the alternate option of investing the said amount in a risk-free investment with an annual rate of return of 10%.

The calculated cost of sludge under this head is around 1.64% of the total investment in the project.

02 Foregone Rental Value

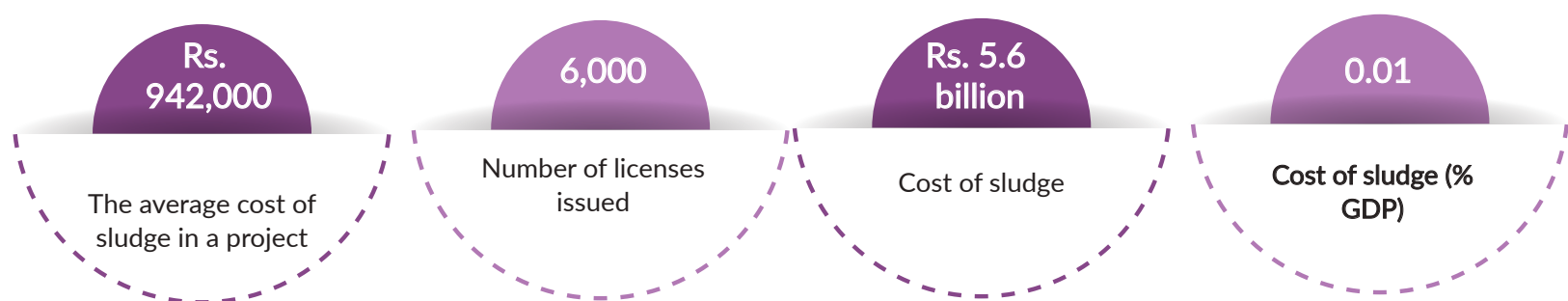
Another indirect cost that falls on the shoulders of the dealer is that for one year his plot remains unutilized. To capture this, we assumed that the proposed site of the petrol pump could have been rented out as a parking lot.

We collected the data on parking plots available for rents from zameen.com and OLX. Based on the average rental values (Rs. 30 per sq. ft.) and size of our proposed site (3 Kanals) this head accounts for 6.56% of the total project cost.

Head	Cost of the sludge (% of the Value)
Foregone Income due to financial Security	1.66
Foregone Rental Value	6.56
Total	8.23

COST OF THE SLUDGE IN TERMS OF GDP

To assess the impact of the cost of regulation on the economy, we translate the cost of sludge in obtaining permission to set up a petrol pump (8.22% of project value) in terms of GDP. The task is performed by taking into consideration information about the average cost of setting up a petrol pump and the average number of licenses issued during a year. The average number of licenses issued in a year has worked out by considering the increase in number of petrol pumps from 2013 to 2021.



Cutting the Sludge

NOCs from some of the departments are not required, or at least all petrol pumps may not require all NOCs – For example, if a petrol pump to be set up in an urban area does not fall under the jurisdiction of the forest department it may not be required to seek NOC from the department.

In Faisalabad, the District Petrol Pump Committee has done with the NOCs required from; Forest department, Irrigation department, PTCL, FESCO (Electricity distribution companies), and the Faisalabad Development Authority – the CDA can work on similar lines – abolishing these NOCs would cut the sludge significantly.

Moreover, for some of the NOCs that might be essential, these may be requisitioned by the CDA from the concerned departments rather than asking the sponsor/applicant to take the file from one agency to another – an option could be that a representative of the concerned departments that must issue NOC should be permanently stationed at the CDA.

The total investment required for setting-up a petrol pump is around Rs. 60 million excluding the investment in the land.

The OMCs take a rather long period of 8 weeks to process the application This could be due to capacity constraints of the OMCs – enhancing capacity to process the application within a week would cut sludge cost.

Table-3.3 (A) : Time Involved in Setting-up a Petrol Pump

Steps	Description		Times (Minutes)				Overhead	Agency
			Travel	Waiting	Transaction/Process	Total		
Gather Information	Visit Oil Marketing Company's Office		45			45	480 (1 day)	
	Gather Information			60	90	150		
	Finish the day		45			45		
Prepare Documents	Property Ownership Documents	Visit NADRA Office	45			45	480 (1 day)	
		Land record verification		20	10	30		
		Fee Challan		20	10	30		
		Receive Fard		20	10	30		
		Finish the day	45			45		
Contact Details				10	10			
Apply For Dealership	Visit OMCs Webpage							
	Fill the Form				10			
	Finish the day							
Wait For Application Processing								28,800 (2 months)
Site Evaluation by the OMCs Team	Trariff count, topographic survey		270	180	540	990	1,440 (3 days)	1,440 (3 days)
Cost Analysis by OMCs Team								3,360 (1 week)
MOU and Lease Agreement	CNIC copy	Visit photocopier	45			45	1,440 (3 days)	
		Get copy						
	Photographs	Visit photo studio	45			45		
		Get Photographed		180	30			
	Rental Agreement	Collect stamp paper	10	20	10	40		
		Print affidavit		10	10	20		
		Witnesses sign	90	15	60	165		
		Notarize affidavit		10	10	20		
	Visit OMCs Office		45			45		
	Sign the MOU			30	60	90		
Finish the day		45			45			
Apply For NOC	OMC forward the application to District Petrol Pump Committee for NOC							3,360 (1 week)
Wait For NOCs	Required NOC	CDA NOC	Verification and assessment of a Piece of land					10,080 (3 weeks)
		Highway Department NOC	Right of way and site location					10,080 (3 weeks)
		Rental Agreement	Tariff related issues					6,720 (2 weeks)
		Civil Defence Report	Security of the equipment					10,080 (3 weeks)

		Municipal Committee NOC	Building Plan						10,080 (3 weeks)
		Sui Gas (Distribution) Report	Sui Gas Pipelines						10,080 (3 weeks)
		Sui Gas (Operation) Report							10,080 (3 weeks)
		PTCL Report	PTCL License						2,880 (2 weeks)
		Irrigation Department Report	Irrigation channels						10,080 (3 weeks)
		IESCO Report	Electricity Poles						6,720 (2 weeks)
		Environment Protection Agency Report							10,080 (3 weeks)
		Forest Department Report							10,080 (3 weeks)
Prepare Documents for NOC from Explosive Department	Application Form D	Print the Form		45					960 (2 days)
		Fill the Form				60	60		
	Treasury challan	Print Challan Form							
		Visit National Bank		45			45		
		Pay Challan Form			30	10	40		
	CDA NOC					10	10		
	Copy of Land Lease Agreement					10	10		
Six Sets of Proposed Site Plan					10	10			
Apply for Explosive Department NOC	Visit Ministry of Industry and Production			45			45	480 (1 day)	
	Submit Application				60		120		
	Finish the day			45			45		
Wait for Explosive Department NOC								480 (1 day)	28,800 (2 Months)
Receive NOC	Visit Ministry of Industry and Production			45			45		
	Receive NOC				60	30	90		
	Finish the day			45			45		
Site Construction and Infrastructure Installation									14400 (1 Months)
Inspection by OMC Engineer				90	90	60	210		
Explosive Department Inspection				90	90	60	210		
Commencement of Business									
Total Time (Months)							0.21	0.40	13.10
Aggregate Time (Months)								0.21	

Table-3.3 (B) : Monetary Cost Involved in Setting-up a Petrol Pump

No	Steps	Description		Cost			Opportunity Cost	
				Travel	Fee	Total		
1	Gather Information	Visit Oil Marketing Copany's Office		500.00		500.00	750.00	
		Gather Information				0.00	2500.00	
		Finish the day		500.00		500.00	750.00	
2	Prepare Documents	Property Ownership Documents	Visit NADRA Office	500.00		500.00	750.00	
			Land record verification			0.00	500.00	
			Fee Challan		500.00	500.00	500.00	
			Receive Fard			0.00	500.00	
			Finish the day	500.00		500.00	750.00	
		Contact Details			0.00	166.67		
3	Apply For Dealanship	Visit OMCs Webpage		500.00		500.00	0.00	
		Fill the Form			1000000.00	1000000.00	166.67	
		Finish the day		500.00		500.00	0.00	
4	Wait For Application Processing				0.00	0.00		
5	Site Evaluation by the OMCs Team	Trariff count, topographic survey		1000.00		1000.00	16500.00	
6	Cost Analysis by OMCs Team				0.00	0.00		
7	MOU and Lease Agreement	CNIC copy	Visit photocopier	500.00		500.00	750.00	
			Get copy		10.00	10.00	0.00	
		Photographs	Visit photo studio	500.00		500.00	750.00	
			Get Photographed		250.00	250.00	0.00	
		Rental Agreement	Collect stamp paper	500.00		500.00	666.67	
			Print affidavit		200.00	200.00	333.33	
			Witnesses sign			0.00	2750.00	
			Notarize affidavit	500.00	200.00	700.00	333.33	
		Visit OMCs Office		500.00		500.00	750.00	
		Sign the MOU				0.00	1500.00	
Finish the day		500.00			750.00			
8	Apply For NOC	OMC forward the application to District Petrol Pump Committee for NOC				0.00	0.00	
9	Wait For NOCs	Required NOC	CDA NOC	Verification and assessment of a Piece of land			0.00	0.00
			Highway Department NOC	Right of way and site location			0.00	0.00
			Rental Agreement	Tariff related issues			0.00	0.00
			Civil Defence Report	Security of the equipment			0.00	0.00
			Municipal Committee NOC	Building Plan			0.00	0.00
			Sui Gas (Distribution) Report	Sui Gas PipeLines			0.00	0.00

			Sui Gas (Operation) Report			0.00	0.00
			PTCL Report	PTCL License		0.00	0.00
			Irrigation Department Report	Irrigation channels		0.00	0.00
			IESCO Report	Electricity Poles		0.00	0.00
			Environment Protection Agency Report			0.00	0.00
			Forest Department Report			0.00	0.00
10	Prepare Documents for NOC from Explosive Department	Application Form D	Print the Form	500.00	20.00	520.00	750.00
			Fill the Form	500.00		500.00	1000.00
		Treasury challan	Print Challan Form	500.00	20.00	520.00	0.00
			Visit National Bank	500.00		500.00	750.00
			Pay Challan Form		25000.00	25000.00	666.67
		CDA NOC		10.00	10.00	166.67	
		Copy of Land Lease Agreement		20.00	20.00	166.67	
Six Sets of Proposed Site Plan		200.00	200.00	166.67			
11	Apply for Explosive Department NOC	Visit Ministry of Industry and Production	500.00		500.00	750.00	
		Submit Application			0.00	2000.00	
		Finish the day	500.00		500.00	750.00	
12	Wait for Explosive Department NOC			0.00	0.00		
13	Receive NOC	Visit Ministry of Industry and Production	500.00		500.00	750.00	
		Receive NOC			0.00	1500.00	
		Finish the day	500.00		500.00	750.00	
14	Site Construction and Infrastructure Installation		50000000	50000000	0.00		
15	Inspection by OMC Engineer			0.00	3500.00		
16	Explosive Department Inspection			0.00	3500.00		
17	Commencement of Business			0.00	0.00		
Total Time (Months)						60,086,513,33	

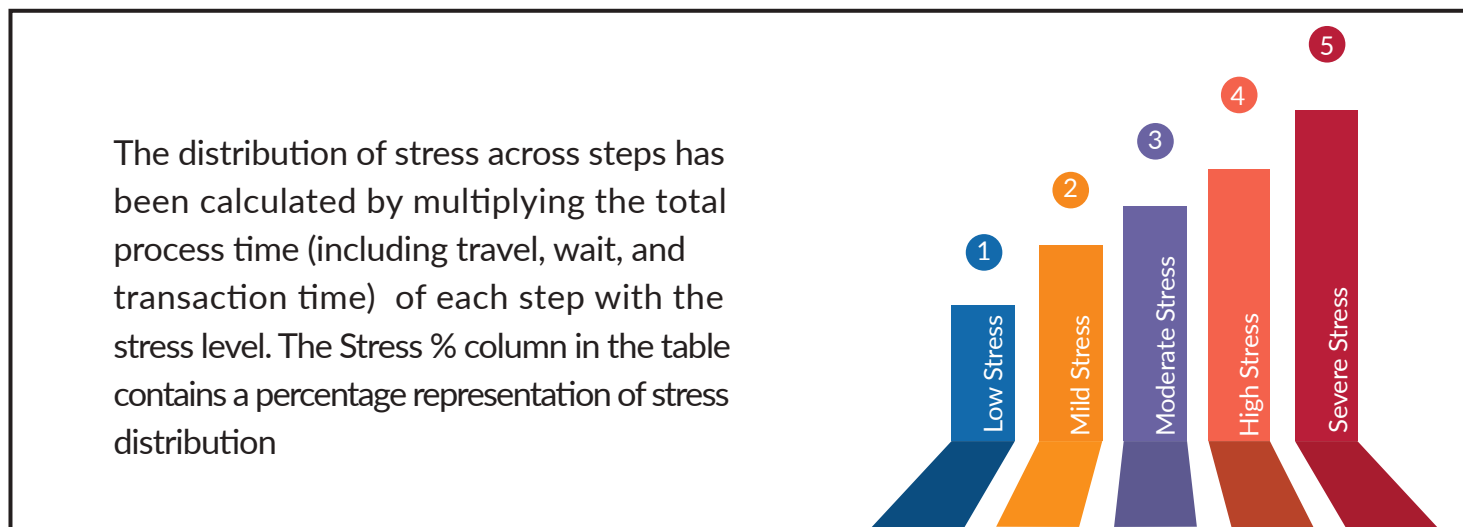


Table-3.3 (C) : Stress Involved in Setting-up a Petrol Pump

No	Steps	Description	Stress Level	Stress %		
1	Gather Information	Visit Oil Marketing Copany's Office	3	1.22		
		Gather Information	5	6.75		
		Finish the day	2	0.81		
2	Prepare Documents	Property Ownership Documents	Visit NADRA Office	3	1.22	
			Land record verification	5	1.35	
			Fee Challan	5	1.35	
			Receive Fard	3	0.81	
			Finish the day	2	0.81	
		Contact Details	3	0.27		
3	Apply For Dealrship	Visit OMCs Webpage	2	0.00		
		Fill the Form	4	0.36		
		Finish the day	3	0.00		
4	Wait For Application Processing		4	0.00		
5	Site Evaluation by the OMCs Team	Trariff count, topographic survey	3	2.74		
6	Cost Analysis by OMCs Team		2	0.00		
7	MOU and Lease Agreement	Prepare Documents	CNIC copy	Visit photocopier	2	0.81
				Get copy	2	0.00
			Photographs	Visit photo studio	2	0.81
				Get Photographed	3	0.00
			Rental Agreement	Collect stamp paper	2	0.72
				Print affidavit	4	0.72
				Witnesses sign	5	7.43
				Notarize affidavit	4	0.72
			Visit OMCs Office		3	1.22
			Sign the MOU		5	4.05
Finish the day		3	1.22			
8	Apply For NOC	OMC forward the application to District Petrol Pump Committee for NOC	5	0.00		
9	Wait For NOCs	Required NOC	CDA NOC	Verification and assessment of a Piece of land	5	0.00
			Highway Department NOC	Right of way and site location	5	0.00
			Rental Agreement	Tariff related issues	5	0.00
			Civil Defence Report	Security of the equipment	5	0.00
			Municipal Committee NOC	Building Plan	5	0.00
			Sui Gas (Distribution) Report	Sui Gas PipeLines	5	0.00
			Sui Gas (Operation) Report		5	0.00
			PTCL Report	PTCL License	5	0.00
			Irrigation Department Report	Irrigation channels	5	0.00
			IESCO Report	Electricity Poles	5	0.00
			Environment Protection Agency Report		5	0.00
			Forest Department Report		5	0.00

10	Prepare Documents for NOC from Explosive Department	Application Form D	Print the Form	5	2.03
		Treasury challan	Fill the Form	5	2.70
			Print Challan Form	5	0.00
			Visit National Bank	5	2.03
			Pay Challan Form	5	1.80
		CDA NOC		3	0.27
Copy of Land Lease Agreement		2	0.18		
11	Apply for Explosive Department NOC	Six Sets of Proposed Site Plan		3	0.27
		Visit Ministry of Industry and Production		4	1.62
		Submit Application		5	5.40
		Finish the day		3	1.22
12	Wait for Explosive Department NOC		5	0.00	
13	Receive NOC	Visit Ministry of Industry and Production		4	1.62
		Receive NOC		4	3.24
		Finish the day		3	1.22
14	Site Construction and Infrastructure Installation		5	0.00	
15	Inspection by OMC Engineer		5	9.46	
16	Explosive Department Inspection		4	7.56	
17	Commencement of Business		4	0.00	



3.4

TRADE LICENSE

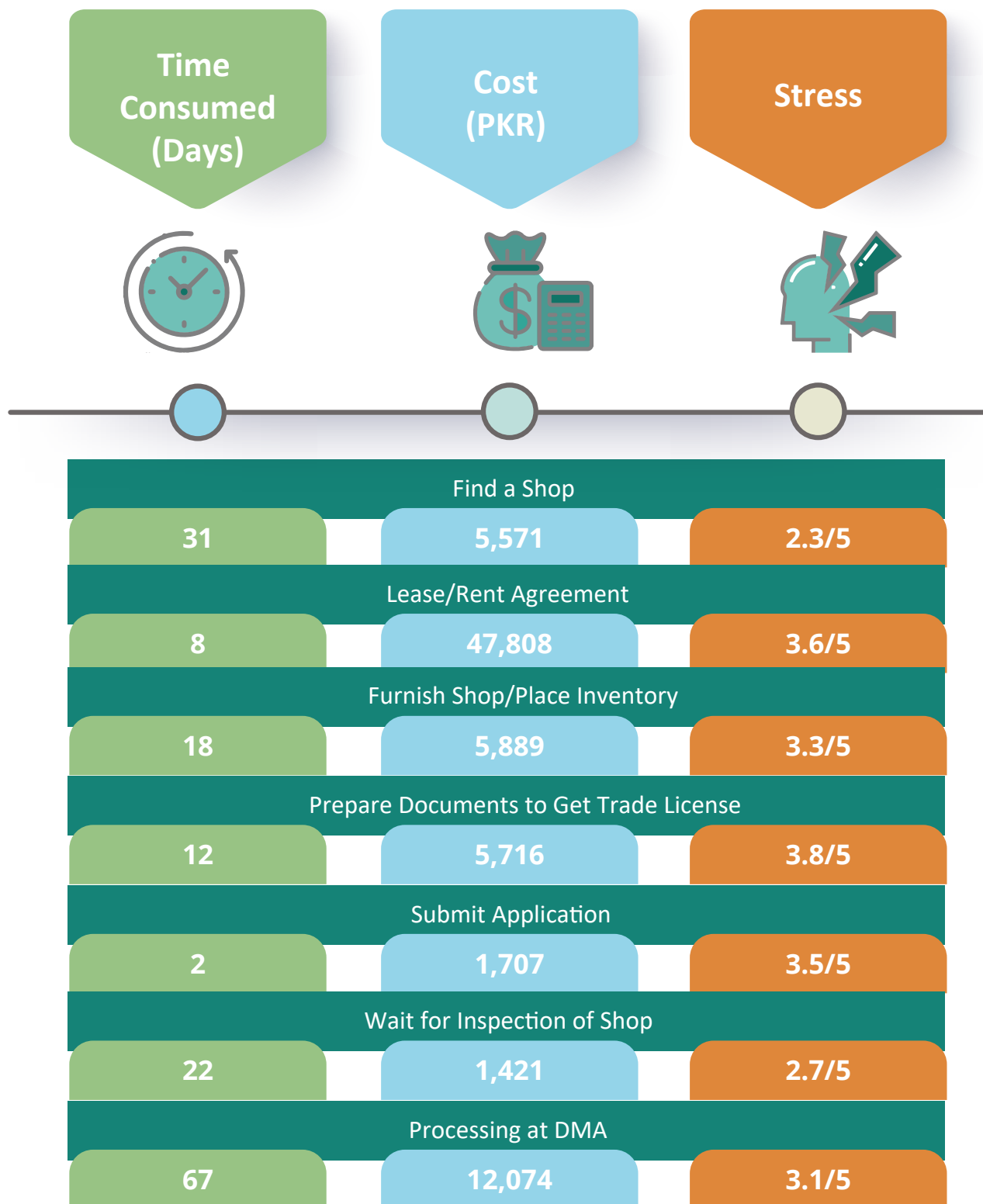
THE PROCESS OF GETTING A TRADE LICENSE



COST OF THE SLUDGE



CHART - 3.4 (A): OBTAINING TRADE LICENSE FROM DMA



Opportunity Cost

Income earned if the time consumed in this activity is put to an alternate use. It is measured by multiplying total processing time with the hourly per capita Gross National income.

Agency Time

The time consumed by the department/agency concerned in processing an activity.

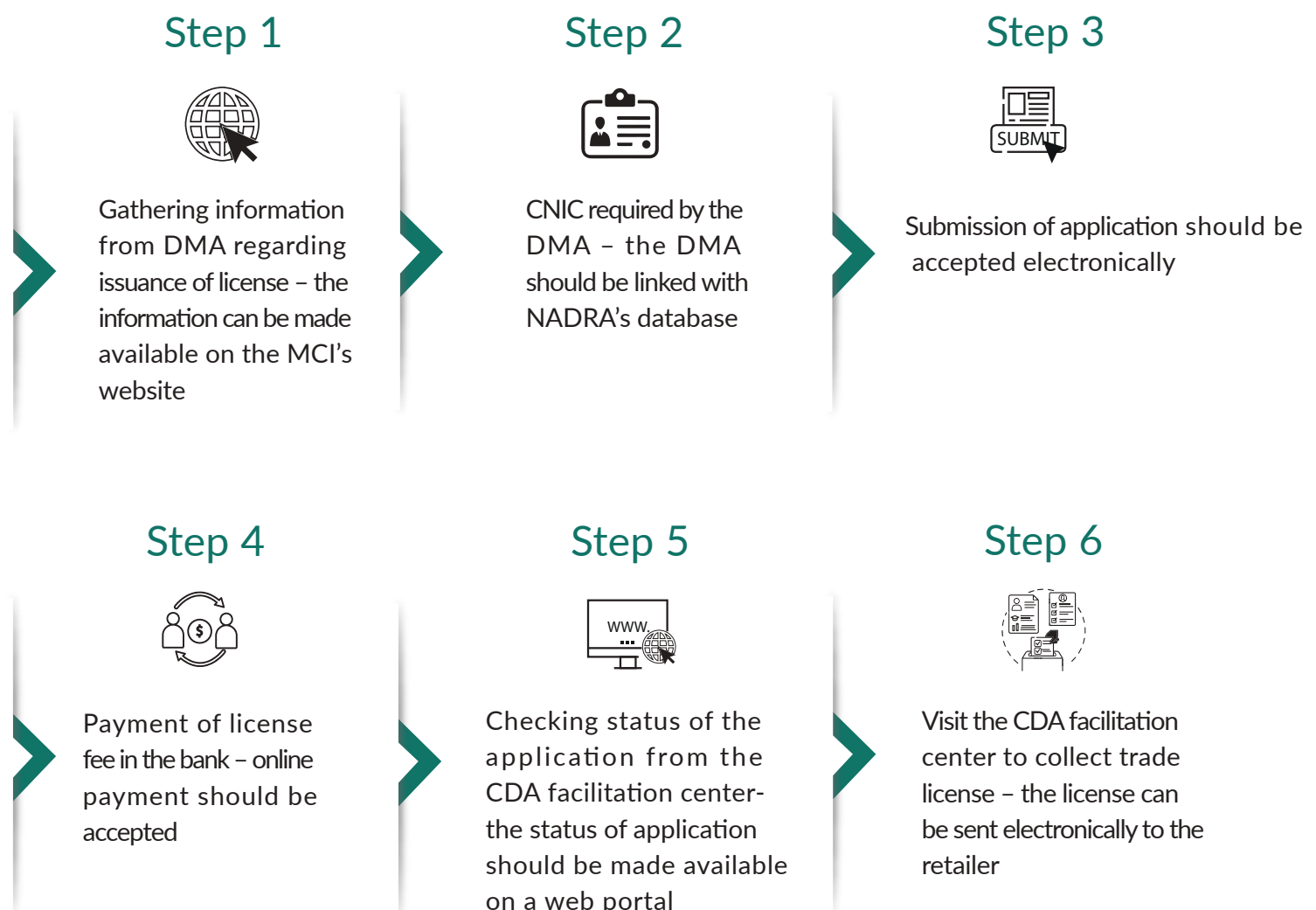
Overhead Time

Part of the day lost due to being involved in this activity for a fraction of the day.

SOURCES OF THE SLUDGE

The trade license is processed by District Municipal Authority (DMA), however, the application has to be submitted to Capital Development Authority (CDA). One of the major sources of sludge lies in the transmission of the file from the CDA to the DMA – the applications submitted for trade license are not immediately processed – the CDA waits for 10-15 applications to be accumulated, only then these are processed for sending to the DMA. This consumes around 15 days. Another major source of sludge is ‘wait for inspection’ – the business premise of the applicant is inspected by the DMA while processing – the applicant may have to wait for 3-4 weeks before the DMA staff visits to physically inspect the business premises.

THE FOLLOWING STEPS CAN BE DIGITIZED



THE FOLLOWING STEP CAN BE ELIMINATED

Permission to display the signboard – permission need not be required – specification of the board should be indicated in the instructions accompanying the application form to be signed by the applicant – violations are likely to be few that can be dealt with after the shops start operating.



Table 3.4 (A) shows the steps involved and time consumed in obtaining trade license. The steps where reducing sludge is possible by way of; full elimination, partial elimination or digitization have been shown in different colours. The colour coding of the steps is shown below. The time and cost to be saved if full elimination, partial elimination or digitization of steps happens is shown in table 5. This reflects the savings due to sludge-reduction.

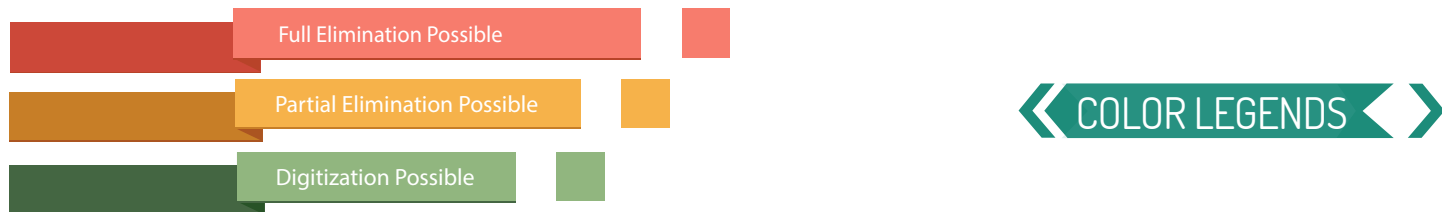


Table 3.4 (A) : Steps involved and Time Consumed in Obtaining Trade License from DMA

	Step	Description	Time (minutes)				Overhead Time	Agency Time		
			Travel	Waiting	Transaction/Process	Total				
1	Find a Shop	Visit the realtor	45			45	14400 (30 days)			
		Preferences indication		15	60	75				
		Finish the day	45			45				
		Visit -2 the realtor	45			45				
		Site visit		15	120	135				
		Finish the day	45			45				
		Visit-3 the realtor	45			45				
		Meet the owner		15	120	135				
		Finish the day	45			45				
2	Lease Agreement	Collect the stamp paper	45	20	10	75	3360 (7 days)			
		Print lease agreement			10	10				
		Witnesses signature	90		10	100				
		Pay Advances			10	10				
		Finish the day	45			45				
3	Gather Information	Visit CDA facilitation center	45			45	480 (1 day)			
		Collect information		30	30	60				
		finish the day	45			45				
4	Getting Start	Prepare the shop	45			45	7200 (15 days)			
		Inventory			480	480				
		Setting-up the shop			480	480				
5	Prepare Documents	General Vaccination Certificate	Visit F-11/4	45			45	3360 (7 days)	1440 (3 days)	
			Get Vaccinated		30	15	45			
			Receive the certificate		45	5	50			
			Finish the day	45			45			
		CNIC copy	Copy	20	5	10	35			
			Attestation	120	45	5	170			
		Lease Agreement Copy			5	5	10			
		File application form				15	15			
		Permission to display sign Board	Affidavit	Collect stamp paper	10	20	10			40
				Print Affidavit		10	10			20
Witnesses sign	90			15	480	585				
Notarize affidavit				10	10	20				

7	Documents Submission	Visit-2 CDA facilitation center	45			45	240 (1/2 day)	480 (1 day)	
		Submit application		30	30	60			
		Submit application to MA for sign board		30	30	60			
		Finish the day	45			45			
8	Check the Status	Visi-3 CDA facilitation center	45			45	7200 (15 days)		
		Ask about the status		30	5	35			
		Finish the day	45			45			
9	Application Processed at DMA							3360 (7 days)	
10	Get License	Visit-4 CDA facilitation center	45			45	3360 (7 days)	28800 (60 days)	
		Pay Fee	Visit Bank	10					10
			Pay order		15	5			20
			Collect Pay order		45	5			50
		Visit facilitation center	10			10			
		Get the Certificate		30	5	35			
		Finish the day	45			45			
Total Time (Days)						7.6	82.5	71	

Table 3.4 (B) : Monetary & Opportunity Cost in Obtaining Trade License from DMA

	Step	Description	Cost			Opportunity Cost		
			Travel	Fee	Total			
1	Find a Shop	Visit the realtor	500		500	151.5		
		Preferences indication				252.5		
		Finish the day	500		500	151.5		
		Visit -2 the realtor	500		500	151.5		
		Site visit			500	454.5		
		Finish the day	500		500	151.5		
		Visit-3 the realtor	500		500	151.5		
		Meet the owner				454.5		
		Finish the day	500		500	151.5		
2	Lease Agreement	Collect the stamp paper	500		500	252.5		
		Print lease agreement				33.7		
		Witnesses signature	1000		1000	336.7		
		Pay Advances		45000	45000	33.7		
		Finish the day	500		500	151.5		
3	Gather Information	Visit CDA facilitation center	500		500	151.5		
		Collect information				202.0		
		finish the day	500		500	151.5		
4	Getting Start	Prepare the shop	500		500	151.5		
		Inventory	500		500	1616.0		
		Setting-up the shop				1616.0		
5	Prepare Documents	General Vaccination Certificate	Visit F-11/4	500		500	151.5	
			Get Vaccinated			0	151.5	
			Receive the certificate		100	100	168.3	
			Finish the day	500		500	151.5	
		CNIC copy	Copy	500	10	510	117.8	
			Attestation			0	572.3	
		Lease Agreement Copy			10	10	33.7	
		File application form			10	10	50.5	
		Permission to display sign Board	Affidavit	Collect stamp paper		150	150	134.7
				Print Affidavit		100	100	67.3
				Witnesses sign				1969.5
Notarize affidavit				200	200	67.3		

7	Documents Submission	Visit-2 CDA facilitation center	500		500	151.5	
		Submit application				202.0	
		Submit application to MA for sign board				202.0	
		Finish the day	500		500	151.5	
8	Check the Status	Visit-3 CDA facilitation center	500		500	151.5	
		Ask about the status				117.8	
		Finish the day	500		500	151.5	
9	Application Processed at DMA				0	0	
10	Get License	Visit-4 CDA facilitation center	500		500	151.5	
		Pay Fee	Visit Bank				33.7
			Pay order		10000	10000	67.3
			Collect Pay order		350	350	168.3
		Visit facilitation center				33.7	
		Get the Certificate				117.8	
		Finish the day	500		500	151.5	
Total Cost					67,930	12,255	



Stress Percentage

The distribution of stress across steps has been calculated by multiplying the total process time (including travel, wait, and transaction time) of each step with the stress level. The Stress % column in the table contains a percentage representation of stress distribution

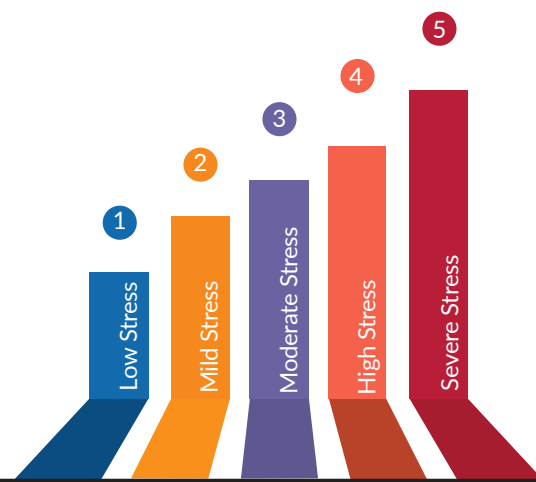


Table-3.4 (C): Stress Level in Obtaining Retail Business License from CDA

No	Step	Description	Stress Level	Stress %		
1	Find a Shop	Visit the realtor	2	0.6		
		Preferences indication	2	1.0		
		Finish the day	2	0.6		
		Visit-2 the realtor	2	0.6		
		Site visit	3	2.8		
		Finish the day	2	0.6		
		Visit-3 the realtor	2	0.6		
		Meet the owner	4	3.8		
		Finish the day	2	0.6		
2	Lease Agreement	Collect the stamp paper	3	1.6		
		Print lease agreement	3	0.2		
		Witnesses signature	5	3.5		
		Pay Advances	5	0.3		
		Finish the day	2	0.6		
3	Gather Information	Visit CDA	2	0.6		
		Collect information	4	1.7		
		Finish the day	2	0.6		
4	Getting Start	Prepare the shop	2	0.6		
		Inventory	5	16.8		
		Setting-up the shop	5	16.8		
5	Prepare Documents	General Vaccination Certificate	Visit F-11/4	2	0.6	
			Get vaccinated	5	1.6	
			Receive the certificate	5	1.7	
			Finish the day	2	0.6	
		CNIC copy	Copy	2	0.5	
			Attestation	4	4.8	
		Lease Agreement Copy	2	0.1		
		Permission to Display Sign Board	Affidavit	Fil application form	5	0.5
				Collect stamp paper	4	1.1
				Print affidavit	4	0.6
witnesses sign	5			20.4		
Notarize affidavit	5	0.7				
7	Documents Submission	Visit-2 CDA	2	0.6		
		Submit application	5	2.1		
		Submit application to M.A. for sign board	5	2.1		
		Finish the day	2	0.6		
9	Check the Status	Visit-3 CDA	2	0.6		
		Ask about the status	4	1.0		
		Finish the day	2	0.6		
10	Application Processed at DMA		2	0.6		
10	Get License	Visit-4 CDA	2	0.6		
		Pay Fee	Visit Bank	2	0.1	
			Pay order	4	0.6	
			Collect Pay order	2	0.7	
		Visit facilitation center	5	0.3		
		Get the Certificate	5	1.2		
Finish the day	2	0.6				

**Table- 3.4 (D): Steps Involved in Issuing a Trade License
(As per official Claim)**

NO	Steps	Time (Days)
1	Application Receive and Issue Diary Number at CDA Facilitation Center	1
2	Compile Around 10-15 Files to Start the Processing	30
3	Files Forward to the Admin Officer (Trade)	1
4	Admin Officer Scrutinize the Files	1
5	File Transfer to DMA from CDA Facilitation Center	15
6	DMA scrutinize Files	1
7	Files Forward to the Director	7
8	Director office Examine all Cases and Issue Approvals	1
9	Tax Calculation according to the Size of Shop	7
10	Files Return to CDA Facilitation Center	1
11	Applicant Submit Pay Order	1
12	License Issued	3
	Total Days required	69

Table 3.4 (E) shows the time and cost saving that would accrue if certain steps can be fully or partially eliminated or digitized as mentioned in table 3.4 (A) and on page 183

Table-3.4 (E): Cutting Sludge; Reduction in Time and Cost Based on Recommendations

Processing Time	
Recommendation	Reduction in Time and Cost
Full Elimination	12.3 hrs.
Partial Elimination: (assumption: processing time will be reduced by half)	1.5 hrs.
Digitization Possible : (Assumption: processing time will be reduced by 2/3)	11.2 hrs.
Reduction in Processing Time (41% of total processing time)	3 Days
Reduction in Opportunity Cost	Rs. 5060
Overhead Time	
Online information availability will eliminate overhead time	
Document preparation overhead time reduce from 7 to 5 days	
Document submission overhead time also reduce from 4 to 2 days	
Getting License overhead time also reduce from 7 to 5 days	
Reduction in Overhead Time	7 Days
Reduction in Cost	Rs. 5680
Agency Time	
Reduction in Agency time if the processing start as the file received	30 Days
Aggregate Reduction in Time Based on Recommendations	40 Days
Aggregate Reduction in Cost Based on Recommendations	Rs. 10,740

NOTES:

The information used in the report has been collected through multiple interactions and in-depth interviews with stakeholders including concerned; government agencies and private entities. Applicants were key informants and were also interviewed in-depth.

ASSUMPTIONS

1. Average travel time to any office within Islamabad/Rawalpindi is 45 minutes. Roundtrip takes 90 minutes.
2. The cost for one way trip is Rs.500/-. This is average fares of Uber/Careem.
3. Applicant visiting a government agency to meet an official manages to meet the person during the said visit.
4. Stress level included in the report has been assessed based on.
 - (i) Effort-level of the applicant for performing a task
 - (ii) Time involved in completion of the step and
 - (iii) How crucial the step is for completion of the activity and
 - (iv) The probability that the task may not be allowed/approved by the authority concerned.

The entire foregoing assessment is based on in-depth interviews of applicants.

Forthcoming PIDE Sludge Audit volumes will highlight the cost of sludge in areas including the banking and financial sector, education sector, and public services provisions.

PIDE has also initiated Sludge Audits for the provincial capitals as well. In the first phase of these Provincial Sludge Audits, PIDE has focused on the real estate sector and health sector. By collaborating with local partners, identifying of cost of the sludge on selected ten activities is in progress and the reports of these sludge audits will be published soon.



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