

Executive Summary

Introduction

The evaluation of functioning of Karnataka State Police Housing and Infrastructure Development Corporation Limited (Corporation) in Karnataka state was conducted for a period of 11 years from 2010-11 to 2020-21. On account of the raging Covid 19 pandemic, the work was spread over a period of one year from October 2020 to September 2021 even though the terms of reference of the study was for a period of only six months.

Background

Karnataka State Police Housing Corporation Limited was incorporated on 17th June 1985 as a Special Purpose Vehicle (SPV) by the Govt. of Karnataka with a limited mandate of construction of residential and non-residential buildings for the police force and allied departments like prison, fire service and home guards. In the year 2007, the Corporation's activity was enlarged by diversifying its activities and it was transformed from a 'No Profit - No Loss' company to a commercial entity and was also renamed as Karnataka State Police Housing and Infrastructure Development Corporation Limited (KSPH&IDCL).

For the State police force with a sanctioned strength of 96,146, the Corporation could construct only 23835 residential buildings accounting for about 25% of the requirement and 1438 non-residential buildings till the end of financial year 2015. In order to increase the residential satisfaction level of the police constabulary, the Government of Karnataka approved the construction of 11000 residential buildings under the scheme of Police Gruha 2020 at an estimated cost of Rs 1818 Crs. {revised to Rs 2272 Crs.}. The scheme was originally envisaged to be taken up with HUDCO assistance against Govt. guarantee. However, in 2017, the Govt. decided to release grants from the budget for the entire project and it has so far released Rs 1860.41 Crs. till the end of March 2020 for Police Gruha 2020.

Hence, the Government initiated the task of carrying out the evaluation study on the functioning of the Corporation to examine the extent to which the scheme objectives under both the Accelerated Housing Scheme (AHS 3-prior to 2015) and Police Gruha 2020 have been met and also to examine the Corporation's sustainability as a commercial entity.

Prior to Police Gruha 2020, the Corporation under the Accelerated Housing Scheme had constructed 13120 residential buildings for the police force in three phases spread over a time

period of sixteen years i.e., from 1999 to 2015 at a total cost of Rs 632 Crs. In the 1st Phase of Police Gruha 2020, construction of 2782 residential quarters at an estimated cost of Rs.478.45 Crs. was taken up in 21 Packages and the entire construction was completed at a total expenditure of Rs 458.53 Crs. In the 2nd phase of Police Gruha 2020, construction of 4,016 residential quarters at an estimated cost of Rs.825.74 Crs. was taken up in 21 packages and a total of 3,666 residential quarters were completed and construction work on the remaining 350 residential quarters were under progress as on March 31, 2020. In the 3rd Phase of Police Gruha 2020, construction of 4,202 Residential Quarters at an estimated cost of Rs.811.31 Crs. has been taken up in 34 packages and a total 2,306 residential quarters are completed and the remaining 1,896 residential quarters work are under progress. The total expenditure for all the three phases of construction under Police Gruha as on 31-03-2020 was Rs.1,808.28 Crs. Prior to the launch of Police Gruha 2020, the residential satisfaction level of the police constabulary in the state was a mere 39 percent. The Police Gruha 2020 added 11,000 quarters and the Police Gruha 2025 is expected to add further 10054 quarters. This would enable the Police Department to have a capacity buildup of about 64% by 2025.

Methodology

As part of the evaluation process, four indicators were identified for the purpose of literature survey viz., performance issues, policy issues, role of government and prospects of the study. A purposeful model on the theory of change was structured on 'SMART' goals after identifying the various inputs, activities involved, outputs and outcomes based on the scope of study. An evaluation framework of the study was next designed based on relevance, effectiveness, efficiency, impact and sustainability.

The study included financial and physical evaluation of the secondary data on the functioning of the Police Housing Corporation with focus on the performance of the projects constructed by it under the AHS-3 and Police Gruha 2020. The profit and loss accounts and the balance sheets of the police housing corporation for a period of eleven years i.e., 2009-10 to 2019-20 and the provisional financials for the year 2020-21 was analyzed in depth. The financial performance of the Corporation was analyzed under three stages viz., stage I (pre-covid) covering a period of 10 years from 2009-2019, stage II (post -covid) covering a period of 2 years from 2019-2021 and stage III (Consolidated) covering a period of 12 years from 2009-21.

Since the Police Housing Corporation has been set up with the primary objective of providing housing to the police force of the State, empirical field data was collected from the police force who were allotted housing by the police department in thirteen districts of the State. A sample size of 1034 respondents was considered for the primary evaluation of the study. The sample also included a control group corresponding to one percent of the police force who were not allotted housing by the police department. A dual level data analysis of focus group discussions and in-depth interviews were also conducted across all the thirteen districts. The performance of the Corporation was also studied by examining the construction activity carried out by it under the police modernization scheme, 13th finance commission and other commercial works.

Major Findings of the Evaluation Study

1. The Corporation's revenue from operations had shown a steady increase during the pre-covid period followed by a decline in the post-covid period. The revenue from operations had peaked in 2018-19 at Rs 56.59 Crs and had touched a low of Rs 24.76 Crs in 2020-21. Correspondingly, the total revenue from all sources had shown a steady progress till 2018-19, followed by a decline from 2019-20 onwards.
2. The main source of income of the Corporation is from the ETP (Establishment, Tools and Plants) charges collected from the various projects implemented by it.
3. The Corporation's other revenue source comprises interest from fixed deposit and other non-operating income. The interest from fixed deposit was in the region of Rs 11 Crs to Rs 12 Crs in the last three years of pre-covid period and in the region of Rs 13 Crs to 14 Crs in the post covid period of 2019-21.
4. The expenditures comprise the administrative expenses, work expenses, stock-in-trade, finance charges, depreciation and prior period expenses. The expenditures to revenue from operation which was at about 88 percent in 2019-20 had increased to 117 percent in the year 2020-21, thus indicating a negative trend.
5. In the beginning of PG 2020, the Operating Profit Margin (OPM) was 35.67 percent in 2014-15 and had progressed to reach a peak of 55.41 percent in 2018-19 and recorded a healthy trend. However, the OPM had come down drastically to 12.13% in the year 2019-20 and on account of negative growth rate, the Corporation could not generate OPM for the subsequent financial year 2020-21.
6. The Net Profit Margin (NPM) values of the Corporation over the period under study were satisfactory across both long and short-term evaluations.

7. The Earnings per Share (EPS) which was at Rs 25,677 in 2019-20 had come down drastically to Rs 5409 in 2020-21 owing to reduction in the PAT.
8. The authorized share capital of the Corporation is Rs 10 Crores and the paid -up capital had remained at only Rs 12 lakhs in the entire period of study.
9. The reserves of the Corporation which was at Rs 49.47 Crores in March 2010, had significantly improved to Rs 231.61 Crores as at March 2021.
10. Net Block of the Corporation from 2009-2021 had shown a consistent improvement.
11. The Return on Equity (ROE) which was around 43% in the initial year of 2009-10, stood at 3% for the year 2020-21.
12. There is a drop down in the Return on Capital Employed (ROCE) from 20% in 2015-16 to 0.32% during 2020-21 which is not a healthy sign.
13. Net Worth of the Corporation which was at Rs 49.59 Crores in March 2010, had significantly improved to Rs 231.72 Crores in March 2021.

The trend analysis indicate that the revenue generated follows a two-year moving average trend with a minimum outlier.

14. Gradual decline in the earnings from other sources of revenue has been observed in the period of study and that there is a higher correlation in expenditures and hence linear regression was used in forecasting future expenditures.
15. Test of hypothesis indicate that both the expenses incurred and the profit generated are dependent on the revenue stream of the Corporation.
16. The Corporation's profit and loss account has been forecasted for the year 2021-26 based on the trend and regression analysis. It is seen that the Corporation can turn the corner by 2022-23 and post appreciable profits and this trend is continued during the entire period of forecast up to March 2026 (this forecast is based on the assumption of timely budgetary support to the projected activity).
17. The physical evaluation of the projects constructed by the Police Housing Corporation under the various schemes show that the on-time delivery of projects which stood at 37.39 % during the AHS scheme 2010-15 had in fact marginally come down to 34.62% in Police Gruha 2020 on account of poor completion of projects especially in the third phase of Police Gruha.
18. A comparative assessment of the houses constructed under the AHS scheme of 2010-15 and in PG 1, PG 2 and PG 3 of Police Gruha 2020 respectively indicates that PG 2 has more or less complied with both time and cost schedules as compared to PG 1 and PG 3. Despite the shortcomings, the Corporation has maintained a satisfactory completion of

44.75% for the schemes under Police Gruha.

19. The cost escalation of residential units constructed under Police Gruha 2020 is about 1% and the overall cost escalation of projects constructed by the Corporation since 2009 under both the AHS and Police Gruha 2020 is about 5% which is well within the norms.
20. In broad terms, there has been only time variation of about 28 % in the construction of residential buildings in PG 2020 and overall time variation of about 30 % in the construction of residential buildings under AHS and PG 2020.
21. A detailed 'Delay Analysis' on a p2p basis was conducted for AHS, PG1, PG 2 and PG 3 to understand the delays for time overrun. The factors attributing to time escalation could be due to unrealistic contract durations-imposed by the Corporation on the contractors, poorly defined project scope, poor supervision of projects by the Corporation, poor site management and inappropriate construction methods used by the contractors.
22. The Police Housing Corporation is an ISO 9001:2008 & 14001:2004 certified company for its quality management and environmental management systems respectively. The Corporation has an in-house quality control division to monitor quality aspects of the projects undertaken and executed by the Corporation.
23. However, the quality of construction has not been up to the expectation of the user department. Several recommendations have been made in the following section for improving the quality and standard of construction.
24. In terms of its Human Resources, the Corporation follows a structured and a robust Human Resource Policy duly approved by its Board. Positions at the top management cadre like the Chairman and Managing Director from the Police Dept., Chief Engineers and Executive Engineers from the PWD, sometimes take longer to depute, which could hamper the continuity and progress of works.
25. In terms of its employee strength, the current sanctioned strength of the Corporation is 395 and the working strength is 281. The working strength comprises 58 permanent employees, 60 employees on deputation and 163 employees on contract. The existing man power has the necessarily skills to meet the growing demands of the changing circumstances and can meet the challenges and opportunities of a commercial entity.
26. Even though the Corporation has met the targets as envisaged under CSR for the years 2017-18 and 2018-19, there has been a shortfall in its target for the year 2019-20.
27. Majority of the CSR activities are focused towards the upliftment of the Police Department only.

28. The performance of KSPH was compared with two states similar schemes. It was compared with Tamil Nadu Police Housing Corporation Limited and Maharashtra State Police Housing and Welfare Corporation Ltd. It was observed that the quality of construction of residential buildings constructed by the Tamil Nadu State Police Housing Corporation is better when compared to the other police housing corporations.
29. The primary data was classified as Internal Factors which are mainly on account of the policy and procedures adopted in the user department (police department) and External Factors i.e., those factors for which the Police Housing Corporation was directly responsible.
30. Majority (91 percent) of the respondents were from the police constabulary and about 8.5 percent from the midlevel police force.
31. Ninety six percent of the respondents were post-graduates and only four percent were graduates.
32. Eighty nine percent of the respondents were males and only eleven percent were females.
33. Maximum number of respondents (59 percent) were in the age group of 31-40 years.
34. Majority of the respondents (93 percent) had to wait for over a year before the houses were allotted to them by the Police Department.
35. The delay in the allotment of houses by the Police Department was primarily due to two factors viz., i) procedural hurdles (58 percent) and ii) allocation of houses based on seniority (29 percent).
36. The overall Satisfaction Index for the process of allotment was at 2.41 /5.0 and the type of houses allotted at 2.35 /5.0 calls for improvement of the process and the procedures adopted for allotment of houses in the police department.
37. The respondents expressed their dissatisfaction on the design of the houses allotted to them. The cumulative satisfaction index at 2.01/5.0 calls for a considered review of the house design for the police quarters.
38. The satisfaction index on adherence to neighborhood planning principles like nearness to dispensary/clinic, park/playground, bus stop, market/provision store, school, bank/ATM and security provided to the police housing colonies was 2.82/5.0.
39. The satisfaction index on connectivity by road and access to public transport from the police housing colonies was 2.55/ 5.0 and 2.54/5.0 respectively.
40. The satisfaction index on the quality of construction in Bangalore Urban at 1.47/5.0 was the lowest amongst all the districts surveyed and the cumulative SI of 2.03/5.0 indicates the poor quality of construction carried out by the Corporation.

41. Residents had expressed their satisfaction (SI 3.41/5.0) on the quality and quantity of water being supplied to the police housing colonies.
42. Residents had expressed their dissatisfaction (SI 1.99/5.0) on the sewerage disposal and drainage system in the police housing colonies.
43. Residents were satisfied with the green cover (SI 3.54/5.0) and air quality (SI 3.38/5.0) in the police housing colonies.
44. The primary data was grouped under pre-covid period and post-covid period to assess any abnormalities in the data pattern. Marginal improvement was observed in the satisfaction index in the change in period (Police Department - pre-covid to post-Covid from 2.34/5.0 to 2.64/5.0 and Police Housing Corporation from 2.73/5.0 to 2.85/5.0).
45. The Cumulative Satisfactory Index with data triangulation at 2.64/5 indicates the huge gap in the expectation of the police force from the police department and the police housing corporation.
46. The major drop in the Satisfaction Index was traced to poor design, poor quality of construction and poor upkeep and maintenance of the housing units in the police housing colony.
47. The Focus Group Discussions and In-depth Interviews conducted across the 13 districts revealed a few generic problems of the police quarters in general like poor design of the houses, poor quality of wirings and electrical, inadequacy in infrastructure, poor connectivity, poor lighting in common areas, lack of community space etc.
48. In addition, specific problems with regards to their living space was also highlighted in the discussion like poor quality of kitchen ware and sanitary ware in the bathroom, inconvenient height of attic, absence of shelves in the bathrooms, frequent power outages etc.
49. The field report on the construction activity undertaken by the Corporation pertaining to police modernization and other schemes indicate that generally the quality and standard of construction of buildings made by the Corporation needs to be improved. There is a lack of basic amenities in these locations which needs to be looked into by the user department and the Corporation.
50. A SWOC model that evaluates the potential of Police Gruha 2020 with the intent of maximizing the performance of police housing Corporation that shall ultimately benefit the State police force has been formulated in the report.

Recommendations

A number of recommendations have been proposed that could improve the overall functioning and governance of the Corporation which would in turn aid in providing quality housing for the police personnel and improve the residential satisfaction level of the police force in the State. The recommendations have been brought out under a five-point plan strategy viz., functional protocol, project planning and execution, business management process, policy measures and capacity building & human resources for both the Police Housing Corporation and the Police Department and the major recommendations are briefly summarized below:

Police Housing Corporation

1. Poor Satisfaction Index of the House Design calls for a serious retrospection on the design aspect of the houses for the police constabulary. There is a need for redesigning the houses based on geo-climatic regions of Karnataka. The Corporation need to prepare a *guidance manual* for the user department on the design of houses.
2. Police Housing Corporation and the Police Department to jointly deploy *predictive analytics* based on the current and historical data patterns to enable the Corporation to deploy its resources more effectively to take advantage of possible future events and reduce its risk.
3. The *quality of construction* of houses built by the Police Housing Corporation is not up to the expectation of the police force and is demonstrated by a poor Satisfaction Index of 2.03/ 5.0. Hence, the Corporation needs to improve the quality of construction by way of clear satisfaction of contract specifications and completion of project within cost and time.
4. To mitigate the time escalation in the implementation of its projects, the Corporation can look at the adoption of *project management tools like SCRUM*, which is a framework for developing, delivering, and sustaining products in a complex environment.
5. The *Sprint Reviews* could help demonstrate the work done to all the stakeholders of the Corporation to elicit feedback, cut down the time delay and enable the team to reflect and improve.

6. With the advent of Covid 19, construction Industries would see an increased adoption of *electronic quality management systems (eQMS)*. Hence, the Corporation should adopt eQMS as it is a critical part of being agile enough to respond to changes with minimal interruptions to business.
7. The in-house *quality control division (QCD)* should periodically monitor the projects being implemented by the Corporation and prepare a '*punch list*' of items that need to be specifically corrected and certified that, it in fact meets the quality expectation set forth by the project documents.
8. It has been observed that for high value projects and works, the contractors have quoted considerable lesser rates than the amount put to tender. Hence, the Corporation should go in for *third party services* to ensure that the amount put to tender is appropriate.
9. Upon handing over the buildings constructed by the Police Housing Corporation for the Police Department, the Corporation is entrusted with the task of maintaining the building for a period of two years, beyond which the maintenance of the building is the responsibility of the user department. It would be more-prudent for the User Departments to have regular maintenance contracts with the Police Housing Corporation for consistent maintenance of the buildings. The Government needs to create a *Special Purpose Vehicle (SPV)* under the umbrella of the Police Housing Corporation to oversee and manage the upkeep and maintenance of the building constructed by it.
10. *Project audit* should be periodically conducted by an independent examiner to ensure that the contractors adhere to stringent quality standard of construction.
11. The Corporation to periodically perform an '*Earned Value Analysis*' and report the findings to the board. This would ensure that there are no significant deviations in schedule, cost and performance.
12. The Corporation needs to establish a regular *Project Monitoring Committee (PMC)* under the chairmanship of the Head of the Institution. The PMC shall be convened once in a month to take stock of the various activities and the minutes of the PMC to be placed before the Board for information and necessary action.
13. The Corporation has to work on strengthening its internal process and identify risks that highlight potential for monetary loss or project loss. As a growing organization, the Corporation should create a separate '*Risk Management Cell*' to assess the risk potential

and dimension of every project that it undertakes.

14. The Police Housing Corporation needs to *develop clear goals and strategies* for its long-term sustenance and growth as a commercial entity.
15. The Corporation needs to *optimize and automate its business processes* which would enable it to raise commercially feasible and adequate resources from the market during its diversification and expansion process.
16. The Corporation can optimize the *utilization of its available skills* in the field of design, architecture of buildings, rainwater harvesting and consultancy for setting up sewerage treatment plants.
17. The Corporation needs to define its Rehabilitation policy and set up a '*Rehabilitation Cell*' to be manned by specialist engineers. This cell would attend to repairs and remediation of old housing units and retrofit them with modern materials and appliances.
18. The Corporation could look into the feasibility of a *backward integrated business model*. It can source or go in for manufacturing its own wood work, metal works and concrete blocks. This would enable it to control its supply chain.
19. To sustain and grow as a commercial entity, the Corporation needs to *register its activities under K-RERA*.
20. *Introduction of HBA scheme and OYH Scheme to the police force* of the State similar on the lines of Maharashtra State Police Housing Corporation and Tamil Nadu State Police Housing Corporation can be considered by the Karnataka State Police Housing Corporation.
21. The Corporation needs to draft an *appropriate and transparent policy* and authorize the CMD to take necessary action against those contractors who consistently delay project execution, thereby ensuring compliance to project execution terms.
22. The Corporation should *explore partnership efforts* with Karnataka Housing Board and Bangalore Development Authority to build affordable housing for the lower income group.
23. There is also an opportunity to *partner for increased collaboration* especially with the local Municipalities and Zilla Parishads in smaller towns.

Police Department

1. The Police Department needs to deploy user friendly technology that would make the *house allotment process more transparent* and would improve the 'Happy Factor' of the Police Constabulary. A time bound allotment system should be followed by the Police Department to its personnel.
2. The police department need to *prioritize the allotment of houses to the Lady police force* especially those posted in the rural and semi urban areas.
3. The *houses need to be redesigned* taking in to account the geo-climatic regions of locational aspects.
4. It is recommended that the *size of the house be relooked* and that it shall be revised from the existing 470 sq. ft to a minimum 540 sq. ft for the Police Constabulary with a larger bedroom and for the Inspectors to a minimum of 640 sq. ft from the existing 580 sq. ft.
5. The Police Department needs to conduct a '*Space Need Analysis*' in the conceptual stage itself in consultation with the Police Housing Corporation to ensure proper site selection for the police housing colony.
6. The Police Department to have *regular maintenance contract* with the Police Housing Corporation for consistent and quality maintenance of the buildings.
7. The *Police housing projects are to be evenly disbursed* across the State which would lead to orderly management of the police force especially in Tier 1 and Tier 2 Towns.
8. *Deemed hand over of the residential units* by the Police Housing Corporation need to be considered by the Police/ User Administration upon intimation to the Police/ User Department.
9. Considering the recent developments pertaining to climate change, it would be advantageous for the Police Department to undertake a '*safety audit*' of the residential buildings that are more than fifteen years old.