PURPOSE AND OUTLINE OF DOCUMENT

PURPOSE

This report describes and evaluates 50 facilities and settings for play, child care, and early childhood development. The evaluation is part of a long-range project for the U.S. Army Corps of Engineers to specify new guidelines for the design of child care facilities and play areas at military establishments around the country.

Problem

This research-travel report was done in response to two problems affecting the hundreds of thousands of children at military bases. First, the U.S. Army maintains the largest number of employer-sponsored child care centers in the country (close to 200.) Nevertheless, as a microcosm of the rest of the country, demand for developmentally-oriented quality care, both full-day and drop-in, including infant care, far exceeds current supply. Second, outdoor playgrounds and natural play areas for the children of young enlisted and officer families are seriously lacking in most family housing areas.

These problems must be seen against the dual backdrop that the early preschool years are the time of most rapid development, and that early childhood development happens everywhere--certainly not just in school--but also in early childhood centers and through spontaneous outdoor play.

To help rectify these problems, the Corps of Engineers plans to build a number of new child care facilities, to renovate others, and to introduce new play areas for children in family housing, recreation, and town center locations.

Objectives

The objectives of the research were:

- to sensitize the client organization to the role of the physical environment in child play, care, and early development
• to comparatively document and assess a sample of both military and civilian care facilities and play areas

• to identify key design features and physical patterns which facilitate child development

RESEARCH PROCEDURE

Research site visits were made at 35 civilian and 7 military locations. A total of 50 were studied. The settings were selected to sample regional and climatic variations, new and renovated facilities, specially designed and self-help projects, different facility sizes and budgets, and some award-winning facilities.

Specific methods included:

• architectural inventories of the surrounding context, immediate site, and building or play area, building subsystems, and furnishings

• behavioral observations of the spatial behavior of children and staff in the facility and its major behavior settings

• focused interviews with the facility director, typical staff, and in some cases children, parents, the base master planner or the chief designer of the facility

• interviews with selected national experts

All interviews were tape recorded and notes were taken. Observations were recorded through behavioral mapping, sketches, and photographs. (For details of the research methods, see the Appendix--Research Forms.) A total of 55 person-days were spent on observations and interviews. The data was then analyzed and distilled into mini-reports.

ORGANIZATION OF THE DOCUMENT

The case studies are in two parts: children's play areas, and child care facilities. Each major case study includes:

• basic architectural and user data

• program philosophy
- facility description, conceptual organization, and building subsystems

- results of user observations and interviews

- assessment, including, as appropriate, special strengths and weaknesses of the facility in the light of child development goals, and lessons for other facilities of the same type

The shorter case studies include only basic data, facility description, and brief assessment.

Important issues and conclusions arising from the case studies are summarized at the end of the two major parts of this document.

DISSEMINATION

The findings of this research will be disseminated to Corps of Engineers' personnel, military master planners, facility engineers, family housing officers, and child care directors and staff across the country.
METHODS USED FOR SITE VISITS

As in most applied-research procedures, there are at least seven phases:

- decisions on questions to be addressed
- selection of appropriate sites
- selection of research methods
- decisions on samples of people
- pretesting research instruments
- on-site procedure
- data analysis

QUESTIONS

The basic questions addressed were:

- What are the program goals and overall operating philosophy of child care directors and playground master planners?

- What population of children are being provided for, in terms of age, socio-economic backgrounds, and significant handicaps, and what future demand is expected?

- What are staff attitudes and preferences about different site locations, building configurations, systems, and furnishings?

- How do children use current space, what spatial characteristics seem most to facilitate development, and what are children's attitudes, preferences, and experiences with different design features?

- How do children feel about different types of child care facilities and play areas, including new design ideas they have never directly experienced?
• Where do children on bases spend their free time, what is there for them to do, and what needs do they have which presently are not being met?

• What parental attitudes might influence the location and design of child-care facilities and play areas?

• What are the official base and staff policies regarding child-care and play, their programs, location and style of setting?

SITE SELECTION

The selection of sites was guided by particular objectives, all intended to insure breadth of the study:

• balance between play and child-care

• geographic diversity

• climatic diversity

• low and high budget facilities

• large and small facilities

• specially designed and self-help projects

• new construction and renovation

• places known for their programs and staff and places known for their facility

• a number of military sites of all three branches

• a sample of some of the reputedly best civilian facilities--including several national award winners--the objective here being to insure that the design and construction of new military facilities and settings will be influenced by the best of current children's architecture

Particular sites meeting these criteria were chosen from our general knowledge, intensive review of the world architectural press back to 1965, and by recommendation from other national experts.
In all, 5 Army bases and 1 each of Navy and Air Force bases, each with child-care and play settings to assess, were specified by the Special Projects Branch in consultation with the Office of the Adjutant General Community Services Branch and the Master Planning Branch. An additional 10 primary play areas and 7 primary child-care facilities were selected by the Project Team. Additional settings were added on the primary route, and a few other interviews were conducted with national experts. In all, 7 military and 20 civilian play areas, and 8 military and 15 civilian child-care facilities were visited and 6 additional interviews were conducted.

RESEARCH METHODS

To answer the questions of interest, certain existing environment-behavior research methods were adopted. In particular, the research team developed three main methods (see the Appendix for the complete instruments):

- Facility inventory, including space for plans and sketches and a check list for noting and photographing significant architectural features.

- Behavioral observation of children and staff in child-care facilities, designated playgrounds, and undesignated play spaces, including copies of maps and plans for sketches, and photographs to be taken.

- Focused interviews with children, parents, program director or play leader, other typical staff, base master planner, family housing officer, and architect where appropriate, including questions about program philosophy, age groups served, program activities, satisfaction and preferences, recommendations for new design criteria, best current children's places, etc., and including a simulation game where children looked at photographs of different types of children's settings, described what they might do there, put them in preferred order, and then gave reasons for their preferences.
<table>
<thead>
<tr>
<th>Method</th>
<th>Sample:</th>
<th>Civilian:</th>
<th>Time</th>
<th>Recording:</th>
<th>Analysis:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Military</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facility Inventory</td>
<td>7 play</td>
<td>19 play</td>
<td>1-2 hrs.</td>
<td>plans</td>
<td>notes</td>
</tr>
<tr>
<td></td>
<td>8 child care</td>
<td>13 child care</td>
<td></td>
<td>sketches</td>
<td>notes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>analysis</td>
</tr>
<tr>
<td>Observation of Spatial</td>
<td>children and</td>
<td>children and</td>
<td>1-3 hrs.</td>
<td>sketches</td>
<td>content</td>
</tr>
<tr>
<td>Behavior</td>
<td>staff</td>
<td>staff</td>
<td></td>
<td>notes</td>
<td>analysis</td>
</tr>
<tr>
<td></td>
<td>facility and</td>
<td>facility only</td>
<td></td>
<td></td>
<td>photos</td>
</tr>
<tr>
<td></td>
<td>base</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Focused Interview</td>
<td>3.1 children</td>
<td>3.1 children</td>
<td>1-3 hrs.</td>
<td>tapes</td>
<td>content</td>
</tr>
<tr>
<td></td>
<td>3.2 parents</td>
<td></td>
<td></td>
<td>notes</td>
<td>analysis</td>
</tr>
<tr>
<td></td>
<td>3.3 child care</td>
<td>3.3 child care</td>
<td></td>
<td></td>
<td>brochures</td>
</tr>
<tr>
<td></td>
<td>director</td>
<td>director</td>
<td></td>
<td></td>
<td>hand-outs</td>
</tr>
<tr>
<td></td>
<td>other</td>
<td>other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>staff</td>
<td>staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.4 master</td>
<td>3.4 architect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>planner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>family</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>housing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>officer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Each significantly different behavior setting was observed for 30 minutes, including at least one infant, preschool, and after-school setting. In some of the larger facilities, however, time did not allow for this degree of thoroughness.

Interviews were conducted, where possible, with the program director, a typical staff member, two groups of 4-5 children of different ages and socio-economic backgrounds, two groups of parents, one of preschool children and one of school-age pre-adolescents, and a minimum of one planning administrator (base master planner, facilities engineer, family housing manager, and/or architect). Unfortunately at some bases we were not able to interview parents, and at one base even the children were missing.

Over 80 hours of interviews were conducted with staff, children, parents, and planners. Systematic, detailed behavioral observations were made and recorded at all 17 primary play areas and 15 primary child-care facilities. Over 1200 color slides and about 1000 black-and-white photos were taken. Finally, site and building plans were drawn for settings not having published plans.

PRETESTING RESEARCH INSTRUMENTS

Prior to the site visits, all research forms were pretested thanks to the cooperation of the University of Wisconsin-Milwaukee Day Care Center. The forms were reviewed in Washington, and necessary changes were made. In addition, a briefing book was compiled for each team culled from published accounts of the sites to be visited together with forms for recording address, names of contact people, basic architectural data, and complete references to any published account of the facility in the past 10 years.

Itineraries were drawn up, appointments made, and letters of reminder were sent to the program director at the primary research sites (see Appendix).
PROCEDURE

The overall procedure at a site was for the research team to meet with the program director to explain the nature of the project and obtain her or his signed approval to work with the children, take photographs, etc., and then to begin the research.

The two teams (West and East Coast) were comprised of one architectural researcher and one designer; both teams were also joined by OCE representatives.

One member of the team (the designer) conducted the architectural inventory following prepared forms, while the other member (the researcher), usually accompanied by the OCE representative, interviewed the director and took a brief tour of the facility. All interviews were tape recorded and notes were taken. The team then observed different spaces following the behavioral observation forms, and after noting repeating and interesting patterns of environment-behavior interactions, recorded examples on both color and black-and-white film and in sketches and notes. As the day continued, a typical pattern was for the designer to do additional behavioral observations and recording, and some interviews with the children, while the researcher was conducting additional interviews with staff, parents if available, and children. At the end of the day, the team would reassemble and take a tour of the base or neighborhood area in search of "kid tracks", "remnants of use", and other indications of where children play and otherwise spend their time, and where they might if correct planning, siting, and design decisions were made.

DATA ANALYSIS

Due to the non-quantifiable nature of the data, it was content analyzed informally, and results from particular sites were compared to identify more general patterns, issues for decision, and recommendations.