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PROJECTION OF ECONOMY ASSETS (USAREUR FAMILY HOUSING)
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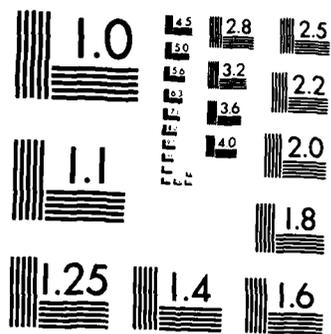
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PROJECTION OF ECONOMY ASSETS

[USAREUR Family Housing]



Prepared by
Engineer Studies Center
US Army Corps of Engineers

June 1985

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20. ABSTRACT--Continued

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ABSTRACT

This study examined the projection of economy family housing units presented in the USAREUR Family Housing acquisition Plan (FHAP) and determined whether the goals out to FY 90 were realistic and achievable. A detailed analysis was conducted of eight selected Army communities in the Federal Republic of Germany; this sample included communities that will supply some of the largest projected gains and which collectively represent over one-third of the FHAP's goals. The study results indicate that only one of the eight communities has a high risk of not meeting its goal. Extension of the sample's results to the other USAREUR communities indicate that a few communities may also fall in the high-risk category. Overall, the study results indicate that the FHAP's goals for using the private leasing to acquire additional economy assets are reasonable and achievable, provided appropriate management emphasis is placed on using Housing Referral Office efforts to locate new listings and to reduce losses from the existing inventory.

EXECUTIVE SUMMARY

When the Engineer Studies Center (ESC) briefed the "Analysis of USAREUR Family Housing" study's results to the Vice Chief of Staff of the Army (VCSA) on 25 April 1985, the VCSA tasked ESC with three additional areas for study:

- * Compare the costs of privately leased family housing with the cost of government-leased family housing.

- * Evaluate the USAREUR projections of privately leased family housing rentals outlined in the February 1985 USAREUR Family Housing Acquisition Plan (FHAP).

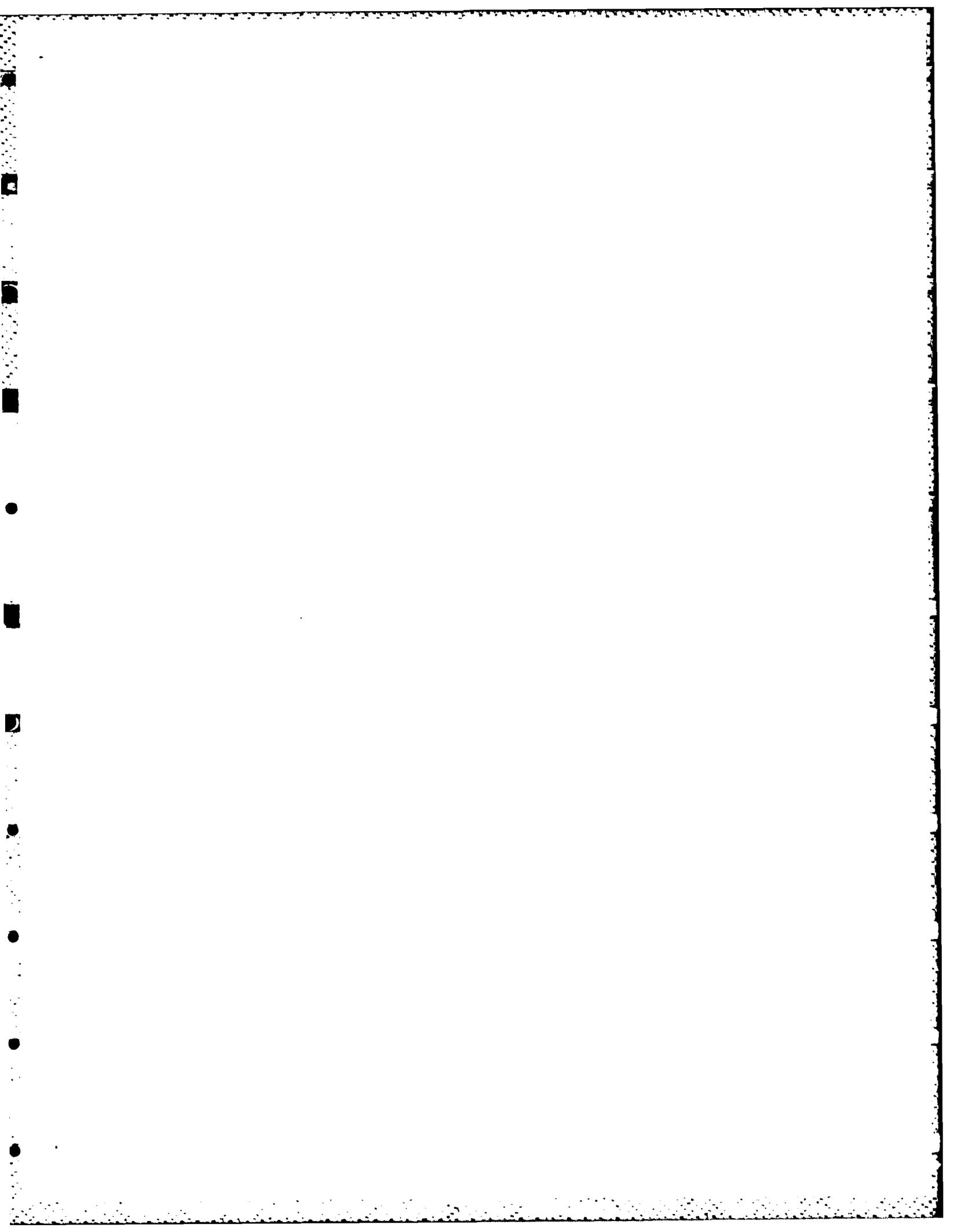
- * Explore the impediments to the Build-to-Lease program.

The second task is the subject of this report. Results of the analysis of the remaining two tasks are described in "Economics of BAQ/Rent-Plus Versus Government Leasing" and "Overcoming Impediments to Government Leasing," published under separate ESC covers.

This study examined the FHAP's projection of economy family housing units and determined whether the communities' goals out to FY 90 were realistic and achievable. A detailed analysis was conducted of eight selected communities in the Federal Republic of Germany (FRG). Individually, these communities have some of the largest projected gains in economy housing; collectively, they represent over one-third of the FHAP's goals. ESC visited each of these communities to gather information about how FHAP projections were made and to interview housing managers and Housing Referral Office (HRO) personnel.

ESC evaluated the rationale each community used to develop its submission to the FHAP and subjectively assessed as low, moderate, or high the risk involved with achieving community's goals out to FY 90. ESC also did an objective, qualitative risk assessment using trend data and other information on population, housing, HRO performance, regional unemployment, and geographical locality. An overall assessment was then developed for each of the eight communities by comparing the results of the subjective objective risk assessments. Those results were extended to all USAREUR communities in the FRG.

In the final analysis, Mannheim was at low risk; Baumholder, Frankfurt, Giessen, Bamberg, Schweinfurt, and Heidelberg were at moderate risk. Only Crailsheim was at a high risk. Of the USAREUR communities which were not examined in detail, a few communities may be at high risk of not meeting their FY 90 goals; like Crailsheim, they are probably rural, non-industrial, and in need of rapid economy family housing gains. Overall, the study results indicate that the USAREUR FHAP goal of using private leasing to acquire additional economy family housing assets is reasonable and achievable, provided appropriate management emphasis is placed on using HRO efforts to locate new listings and to reduce losses from the existing inventory.



PROJECTION OF ECONOMY ASSETS

(USAREUR FAMILY HOUSING)

1. INTRODUCTION

1. Purpose. This report presents the results of an Engineer Studies Center (ESC) analysis of the USAREUR projection of the number of economy family housing units expected to be acquired as private leases over the next 5 years to determine whether that projection is realistic and achievable.

2. Scope. This study focused on the USAREUR Family Housing Acquisition Plan (FHAP) for the FRG (less Berlin). The FHAP is based on acquiring 6,159 additional economy family housing units over the next 5 years to help meet the family housing requirement of 55 Army communities. To determine whether this acquisition plan is realistic and achievable, this study:

a. Examined eight selected communities where a large number of economy assets are to be acquired to:

(1) Determine the method used to project the expected increases.

(2) Evaluate the communities' ability to achieve the planned increases.

b. Extended the results of the detailed analysis of the eight communities to the remaining USAREUR communities in the Federal Republic of Germany (FRG).

3. Background.

a. General. During the April 1984 Commander's Conference, the CINCUSAREUR expressed concerns about the family housing problems in Europe. In response, the Vice Chief of Staff of the Army (VCSA) asked the Chief of Engineers to task ESC to evaluate the current family housing situation in

USAREUR. The Chief of Engineers appointed the Assistant Chief of Engineers as the study's sponsor. ESC was formally tasked with the study in June 1984, and the study was completed in April 1985.¹

b. ESC report. Although the ESC Family Housing Study was expected to be comprehensive, it purposely excluded three subject areas:

(1) The study did not audit or validate USAREUR's estimate of the Army family housing deficit in Europe.

(2) Because USAREUR's FHAP was being developed concurrently with the execution of the ESC study, the ESC study team did not thoroughly analyze the plan.

(3) To avoid any duplication of effort already committed to a USAREUR-sponsored report on the Build-to-Lease program,² the ESC study did not recommend ways to improve the current USAREUR leasing process.

c. Follow-up requested. When ESC briefed the study's results to the VCSA on 25 April 1985, the VCSA tasked some of those present with additional actions (Annex A). ESC was asked to perform three tasks:

(1) Compare the costs of privately leased economy family housing supported by Basic Allowance for Quarters (BAQ) and Rent-Plus Housing Allowance (RPHA) with the costs of government-leased housing.

(2) Examine USAREUR's projections of future growth in economy housing as outlined in the February 1985 USAREUR FHAP.

(3) Identify and explore solutions to the impediments to the Build-to-Lease program.

¹Department of the Army, US Army Corps of Engineers, Engineer Studies Center, Analysis of USAREUR Family Housing, Washington, D. C., April 1985.

²Department of the Army, Office, Chief of Engineers, Directorate of Real Estate, Report on the Build-to-Lease Family Housing Program, prepared by Barry J. Frankel, et al., for the Deputy Chief of Staff, Engineer, HQ USAREUR, Washington, D. C., 29 June 1984.

d. ESC response. The second task is the subject of this report. Results of the analysis of the remaining two tasks are described in "Economics of BAQ/Rent-Plus Versus Government Leasing" and "Overcoming Impediments to Government Leasing," published under separate ESC covers.

4. Method. The analysis described in this report was based on interviews with key USAREUR HQ officials and visits to a selected sample of the military communities in the FRG.

a. Because of the difficulty in obtaining detailed data and making a thorough analysis in the short time frame allowed for this study, the analysis was based on a sample of the military communities in the FRG. All communities outside the FRG and all those for which the FHAP showed no future gains (or for which gains were negligible) were excluded from consideration. These exclusions left 40 communities remaining, as listed in Figure 1. Eight of the 40 communities shown in Figure 1 were then selected for detailed examination. The eight were selected because they either had the largest projected economy family housing gains or percentage of growth. Four of the five USAREUR Major Commands (UMCs) were represented in the sample. Figure 2 shows the eight sample communities and the gains for each projected by the FHAP. The eight communities selected for detailed examination contain 2,323 planned additional economy family housing units or 37 percent of the planned economy family housing units included in USAREUR's FHAP for the FRG (6,159 units).

b. ESC validated the estimate of the number of economy family housing units that USAREUR expects to acquire over the next 5 years by determining the risks involved. Two risk assessment methods were employed; one subjective and one objective. For the purpose of this analysis, risk is defined as the probability that goals for economy assets will not be achieved. Figure 3

USAREUR COMMUNITY RANKINGS

UMC	Community (Parent MILCOM)	Assets at End of FY 84 (Units)	Gain in Assets FY 85-90 (Units)	Relative Ranking (Units Gained)	Percent Growth Assets FY 84-90
<u>V Corps:</u>					
	GIESSEN*	345	344	2	100
	Bad Nauheim (Geissen)	311	327	3	105
	Butzbach (Geissen)	380	303	5	80
	BAUMHOLDER*	573	284	7	50
	FRANKFURT*	475	275	9	58
	Mainz	439	165	17	38
	Darmstadt	301	144	19	48
	Bad Kreuznach	175	134	22	77
	Wiesbaden	421	90	26	21
	Babenhausen (Darmstadt)	126	50	31	40
	Fulda	439	50	32	11
	Dexheim (Bad Krueznach)	122	29	36	24
	Bad Hersfeld (Fulda)	163	25	37	15
	Gelnhausen (Hanau)	194	17	39	9
<u>VII Corps</u>					
	SCHWEINFURT*	483	369	1	76
	BAMBERG*	1,752	314	4	42
	Neu Ulm	288	281	8	98
	Schwaebisch Gmuend (Goeppingen)	214	240	10	112
	CRAILSHEIM (Ansbach)*	28	224	11	800
	Heilbronn	340	220	13	65
	Kitzingen (Wuerzburg)	805	202	14	25
	Goeppingen	259	187	15	72
	Aschaeffenberg	360	181	16	50
	Nuernberg	1,512	137	20	9
	Schwaebisch Hall (Heilbronn)	75	121	23	161
	Wuerzburg	938	97	25	10
	Wertheim (Wuerzburg)	148	85	27	57
	Augsburg	271	64	30	24
	Bad Kissingen (Schweinfurt)	205	39	34	19
	Erlangen (Nuernberg)	624	31	35	5
	Ansbach	701	20	38	3
	Stuttgart	1,372	5	40	0

Figure 1 (Continued On Next Page)

and on-post family housing units. The expected shortfall from the high risk group could exceed 300 units.

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IV. CONCLUSIONS

9. Predictions Based on Informed Professional Judgement Are the Most Credible. Informed professional judgement is the best source for projections of economy housing. Many communities, however, collect very little data to form an analytical basis for thier professional judgements. Projections based solely on opinion are difficult to communicate and easy to challenge. Credible housing market analyses can provide a framework to transmit professional judgements and the facts on which they were based.

10. Most of USAREUR's FHAP is Reasonable and Achievable. Since 93 percent of the communities in Figure 1 have been determined to be at either low- or moderate-risk, USAREUR's Acquisition Plan for economy assets appears reasonable. The 18 communities identified in the moderate-risk category will require intensive management, expecially during the early years of the Acquisition Plan, to ensure they reach their goals. Aggressive HRO efforts will be required to locate additional housing units and reduce losses from the existing inventory. With this stipulation, the vast portion of the plan is achievable. Without the additional effort, the expected shortfall could exceed 800 units.

11. A Few High Risk Communities Exist. There are a few communities that have a high potential for not reaching their goals. ESC estimates that approximately 7 percent, or three communities, fall into this category. A higher risk is characteristic of communities that are more rural, are less industrialized in make up, and where rapid gains are projected. USAREUR and the UMCs should concentrate their efforts on those communities with these characteristics. Plans for those communities should be reviewed and, if necessary, adjustments made in the mix of privately leased, government-leased,

units can, of course, be dismissed quickly. Of the 40 communities shown in Figure 1, 32 were not examined in detail by this study.

(1) Unlike the eight selected communities, which had the largest projected gains in magnitude and in percentage of growth, many of the other 32 communities in the FRG do not have significant programs. In fact, 16 of these 32 can be assumed to be in a low-risk category because their gains do not exceed 100 units (about 20 per year). In these 16 low-risk communities, the expected number of units achievable is 698 units out of a goal of 698.

(2) The remaining 16 communities were assumed to be distributed among the risk categories similarly to the eight selected communities. This implies 2 low-risk, 12 moderate-risk, and 2 high-risk communities. Since the specific communities for each category could not be identified, the expected number of achievable units were approximated using the overall percentages. Of the 3,128 units in this group, the expected number achievable is 2,464 units.

(c) Figure 7 displays the distribution of risk and the expected values for all 40 communities considered by this study.

DISTRIBUTION OF RISK FOR ALL 40 COMMUNITIES

Risk Level	Number of Communities	Goal (Units)	Expected Number of Units Achievable	Expected Shortfall (Units)
Low	19	1,310	1,310	0
Moderate	18	4,224	3,379	845
High	<u>3</u>	<u>616</u>	<u>308</u>	<u>308</u>
Total	40	6,150	4,997	1,153

Figure 7

e. Findings in selected communities.

(1) Only one of the eight communities (Crailsheim) was at high risk. This means that there is less than a 50-percent chance that Crailsheim will acquire the 224 units necessary to achieve its FHAP goal.

(2) Most (six of eight) of the communities were at moderate risk; i.e., they have a 20- to 50-percent chance of failing to meet its FY 90 FHAP economy family housing goals. These included Baumholder, Frankfurt, Geissen, Bamberg, Schweinfurt, and Heidelberg. Collectively, these communities represent 1,878 units.

(3) The remaining community (Mannheim) was at low risk; i.e., had less than a 20-percent chance of failing to acquire its needed 221 units.

(4) Although the statements of risk concerning the eight selected communities reflect a subjective process, several quantitative indicators were used to project the number of units that each community can expect to obtain over the next 5 years (Annex B). It is therefore reasonable to compute an expected number of units achievable for each of the risk categories. Assuming the actual number of units that a community will obtain is distributed normally the expected values were computed as follows: a high-risk community can expect to acquire 50-percent of its goal, a moderate-risk community 80-percent of its goal, and a low-risk community 100-percent of its goal. Using these figures, the expected number of units achievable for the selected communities is 1,835 units--an expected shortfall of 488 units. These numbers should not be interpreted as the number of units that can, or cannot, be obtained. Rather, they are a statistical average that provides information concerning the relative risk associated with USAREUR's program.

f. Findings projected to communities not selected. All communities in the FRG (less Berlin) which project no gains in economy family housing

RESULTS OF QUALITATIVE RISK ANALYSIS

Community	Performance Indicators*					Overall Assessment
	EA	CH	MS	UT	GL	
Baumholder	Low	High	Low	Low	High	Moderate
Frankfurt	Moderate	Low	Low	Moderate	Moderate	Moderate
Giessen	Low	High	Low	Low	Moderate	Moderate
Bamberg	Low	High	Low	Low	High	Moderate
Crailsheim	High	High	NA**	Moderate	High	High
Schweinfurt	Low	High	Low	Low	Moderate	Moderate
Mannheim	Low	Low	Low	Low	Low	Low
Heidelberg	Low	High	Low	Moderate	Moderate	Moderate

NOTE: Levels of risk indicate probability of not attaining goal.

*Legend of Indicators:

EA: Average annual gains in economy assets.

CH: Projected annual availability of community housing.

MS: Mid-year status of FY 85 economy housing goal.

UT: Unemployment trends.

GL: Geographic Location

**Crailsheim had no E4-up service members in economy family housing as of March 1985 and no gains projected for FY 85; this factor could not be computed.

Figure 5

COMPARISON OF RISK ASSESSMENTS:
FIELD VISITS VERSUS PERFORMANCE INDICATORS

Community	Risk Assessment		
	Initial Assessment	ESC Model	Combined Assessment
Baumholder	High	Moderate	Moderate
Frankfurt	Moderate	Moderate	Moderate
Giessen	High	Moderate	Moderate
Bamberg	Moderate	Moderate	Moderate
Crailsheim	High	High	High
Schweinfurt	Moderate	Moderate	Moderate
Mannheim	Low	Low	Low
Heidelberg	Low	Moderate	Moderate

Figure 6

(4) Bamberg (Moderate Risk): average construction activity in the area.

(5) Crailsheim (High Risk): a large number of economy assets were lost when service members were moved to government quarters following a restationing action; in a small community such as Crailsheim, it will take a long time for landlords to regain the confidence to once again rent to service members.

(6) Schweinfurt (Moderate Risk): average construction activity in the area and German landlords' lack of funds to renovate inadequate housing units.

(7) Mannheim (Low Risk): the high level of construction activity in the area.

(8) Heidelberg (Low Risk): the recent gains in economy assets and the high level of construction activity in the area.

c. Application of risk assessment model. Using the method described in Annex B, ESC evaluated the risk of not achieving the FHAP goal using five factors: average annual gain in economy assets; projected annual availability of community housing; mid-year status of the FY 85 goal; unemployment trends; and geographic location. Figure 5 shows the results for the eight selected communities.

d. Final risk determination. The initial assessments from ESC's field visits and the corresponding assessments made after applying the ESC model are shown in Figure 6. ESC evaluated both sets of ratings and made a final assessment, which is shown in the right-hand column. Ties between the two methods were broken by counting, for each community, the total number of low-, moderate-, and high-risk assessments.

population trends, construction activity, and the community's confidence in its ability to meet FHAP economy housing goals. ESC's initial risk assessment, based on these discussions and the team's onsite observations, are summarized in Figure 4. The primary considerations which led to these rating are:

INITIAL ASSESSMENT OF RISKS FOR THE SELECTED COMMUNITIES

	High	Moderate	Low
Baumholder	X		
Frankfurt		X	
Giessen	X		
Bamberg		X	
Crailsheim	X		
Schweinfurt		X	
Mannheim			X
Heidelberg			X
Total	3	3	2

Figure 4

(1) Baumholder (High Risk): the community's impression that approximately 25 percent of its existing economy assets are inadequate and need to be purged from the inventory; the large numbers of economy assets that were lost because of tenant misconduct and rental default; and the limited amount of new construction activity in the community.

(2) Frankfurt (Moderate Risk): the large number of units lost in the last reporting period may be offset by decreases in population, which will increase the number of available housing units.

(3) Giessen (High Risk): the large losses in assets; the large population of students in the area; and the community's impression that 20 percent of existing assets need to be purged from its inventory.

g. Mannheim established a 5-percent goal for increasing economy assets for service members at the grade of E4 and above. This projection assumed continued support for the RPHA and the 1-year on the economy programs. It also considered increases in HRO staff and transportation capabilities.

h. Heidelberg applied the following considerations to the development of its economy projections:

(1) Gains and losses of economy assets for the time periods from October 1982 through August 1984.

(2) The number of economy units occupied by service members of the grade of E4 and above during July to August 1984.

(3) The number of vacant housing units listed with the HRO in August 1984.

(4) A review of the latest RPHA rates, which indicated that soldiers could better afford quality economy family housing.

8. Analysis of Risks.

a. Introduction. After reviewing each community's projection and its supporting rationale, ESC judged whether that projection could be met by assessing the overall risks involved. This analysis was performed in two steps:

(1) An initial subjective determination of each community's risk was made based on the insights the study team gained during its site visit and interviews.

(2) Using the risk assessment model described in Annex B, the team made a more objective assessment of risks.

b. Initial risk assessment. During each community visit, ESC talked with the housing manager and the HRO staff about their concerns and impressions of the general economy family housing situation, past HRO performance,

III. EXAMINATION OF THE SELECTED COMMUNITIES

7. Rationale Used by the Communities To Estimate Future Economy Gains.

ESC reviewed the market analysis each community prepared for the FY 85 Family Housing Requirements Survey and found them generally inadequate and based upon questionable data. There was little or no audit trail available to validate the procedures applied in the analyses. However, the projections in the FHAP did not rely on these market analyses. Instead, the following general rationale were used by the communities to develop their economy projections.

a. Baumholder's projections were developed considering the current strength of the US dollar and the support provided by the RPHA program. Since housing costs are essentially covered, service members can use their disposable income for other items such as transportation. In addition, there has been an increase in school bus services provided to service members. The net effect is an expansion of the geographical area into which the housing office can place service members.

b. Frankfurt reviewed the general economic and housing situation in and around Frankfurt as a basis for its projections. It also considered the strength of the US dollar and recent increases in the RPHA authorization.

c. Giessen developed its projections based on the housing market analysis conducted in September 1984.

d. Bamberg mainly based its projections on recent gains in economy assets for the periods of March 1984 to March 1985.

e. Crailsheim based its projections on the belief that it could regain economy assets lost when military units were restationed.

f. Schweinfurt's projections were developed based on the community's previous gains of economy housing assets.

indicator, routinely developed from a survey of the construction industry, is showing its lowest level since the 1974-1975 recession. Housing starts since the recession of 1981-1982 have run consistently low. For 1982, 347,000 new housing units were built. This represents less than half of the number built in 1973, the record high year. For 1982, 190,000 of the 347,000 units constructed were private, owner-occupied housing. The remaining 157,000 housing units were rental stock. Today, 40 percent of all German heads-of-households own their home or apartment. The remaining 60 percent occupy rental units.

6. Impact of Economic Conditions on Demands for Housing. The relatively high number of rental units is significant, since the increase or decrease in the number of households in a typical community is strongly affected by economic conditions. Income, employment, and general economic patterns influence housing demands through their effect on the rate of growth in the number of households. As economic conditions worsen, families will tend to remain large and young adults will not break off from existing households and form households of their own. Also, families will tend not to move to acquire higher quality accommodations. The current poor economic conditions in Germany are reducing the demand for housing generated from the local population.

II. GENERAL ECONOMIC CONDITIONS

5. General. This section addresses the general economic conditions in the FRG and focuses on the impact those conditions have on the rate of growth in the number of households expected in USAREUR's military communities. This discussion is intended to outline overall trends--the general impacts highlighted will not apply to all military communities in the FRG.

a. Gross National Product (GNP). The GNP growth since the recession of 1981-1982 has been at relatively modest levels: +1.3 percent in 1983 and +2.6 percent in 1984. Approximately +2.5 percent is projected for 1985. It is expected that 1986 will not exceed the 1985 value. This lack of vitality permeates most sectors of the German economy--in particular, the growth of the construction industries has slowed.

b. Inflation. Rates of inflation have been low since the recession and are trending toward even lower levels. Rates were 5.3 percent in 1982; 3.3 percent in 1983; and 2.4 percent in 1984. Approximately 2.5 percent is projected for 1985. Expectations for 1986 are for inflation to hold to the 1985 level.

c. Unemployment. Before the 1981-1982 recession, unemployment was very low, but has since risen to relatively high levels: 9.2 percent in 1982; 9.1 percent in 1984. Approximately 10 percent is projected for 1985. Expectations for 1986 are for unemployment to hold well above the 9 percent mark.

d. Construction (including housing). Overall, the construction sector has done poorly since the recession and is currently at a crisis level. Growth was +1.0 percent in 1983 and +1.8 percent in 1984, but is projected to drop to -3.0 percent in 1985. Expectations for 1986 are for even greater losses unless the German government intervenes. One construction confidence

displays the range of probabilities associated with the three descriptive levels of risks.

CONVENTION OF RISK LEVEL

Risk Level	Probability of Not Achieving Goal
Low	0 - 0.20
Moderate	0.20 - 0.50
High	0.50 - 1.00

Figure 3

ACQUISITION PLANS FOR ECONOMY HOUSING UNITS IN THE EIGHT SELECTED COMMUNITIES

UMC	Community	Current Inventory	By End of Fiscal Year				Total Gains			
			85	86	87	88		89	90	
V Corps	Baumholder									
	Gain		55	54	55	55	54	11		284
	Total	573	628	682	737	792	846	857		
V Corps	Frankfurt									
	Gain		44	44	44	45	44	54		275
	Total	475	519	563	607	652	696	750		
V Corps	Giessen									
	Gain		69	68	69	69	69	0		344
	Total	345	414	482	551	620	689	689		
VII Corps	Bamberg									
	Gain		100	90	50	51	23	0		314
	Total	752	852	942	992	1,043	1,066	1,066		
VII Corps	Crailsheim									
	Gain		loss	(28)	67	61	62	62	0	224
	Total	28	0	67	128	190	252	252		
VII Corps	Schweinfurt									
	Gain		68	83	80	46	50	42		369
	Total	483	551	634	714	760	810	852		
21st SUPCOM	Mannheim									
	Gain		40	42	44	46	49	0		221
	Total	803	843	885	929	975	1,024	1,024		
26th Support Group	Heidelberg									
	Gain		0	76	72	72	72	0		292
	Total	702	702	778	850	922	994	944		
Total Gain										2,323

Figure 2

USAREUR COMMUNITY RANKINGS--CONTINUED

Community	Assets at End of FY 84 (Units)	Gain in Assets FY 85-90 (Units)	Relative Ranking (Units Gained)	Percent Growth Assets FY 84-90
UMC (Parent MILCOM)				
<u>21st SUPCOM:</u>				
MANNHEIM*	803	221	12	28
Karlsruhe	560	154	18	28
Pirmasens	498	137	21	28
Norddeutschland	424	120	24	28
Rheinberg	255	71	28	28
Worms	250	70	29	28
Zweibruecken	144	40	33	28
<u>26th Support Group:</u>				
HEIDELBERG*	702	<u>292</u>	6	42
Total		6,159		

*Communities selected for detailed analysis.

Figure 1

ANNEX A

STUDY TASKER

ANNEX A

STUDY TASKER

DAEN-ZCZ-A

25 April 1985

MEMORANDUM FOR RECORD

SUBJECT: VCSA Briefing on USAREUR AFH, 25 April 1985

1. This morning ESC and USAREUR ODCSENGR briefed the VCSA on the ESC study of AFH in Europe (ACC task at Tab A) and the USAREUR build-to-lease program (task at Tab B). At Tab C are the briefing charts; at Tab D is their report.
2. Below are comments and tasks arising from the briefing and discussion:
 - a. Include E-1's - E-3's in all requirements and program statements. (e.g., charts 12, 14, 19, 26).
 - b. Chart 11: VCSA challenged the DODI that establishes "...the local housing market...as the primary source of family housing..." and our exclusion of build-to-lease units from that category. VCSA directed we approach DOD to include government leasing as a "local housing market" solution as are individual SM leases or purchases (DCSPER) (note: there may be some pitfalls in doing this because it would force the elevation of the priority for the government leasing solution over construction versus the current flexibility we now enjoy).
 - c. Chart 17: VCSA questioned methodology used in projecting individual economy rentals. He directed ESC to "audit" that projection. His concern is that our construction and government leasing programs would be depressed by an optimistic individual rental forecast. (ESC).
 - d. Chart 19: VCSA stated that the top line is not the "requirement," but that portion of the total requirement USAREUR has decided to satisfy with government leasing. He asked for a chart that shows total requirement (USAREUR).
 - e. Chart 21: VCSA requested numbers of units in each step of the process. We pointed out that allocations are required at the letter of intent stage in negotiations. (USAREUR).
 - f. Chart 26: (1) VCSA questioned need for allocation at all. (DAEN-RE will review legal requirement).
(2) VCSA asked what total allocation would we want now to cover all projected requirements. (USAREUR).
(3) VCSA wants to get that total from Congress in '86 bill (ACE will work issue with SASC and HASC and prepare a letter from VCSA to Mr. Dellums, HASC Subcommittee Chairman. Letter and staff contacts will include allocations, 20-year lease authority, and furnishings funds -- three points I suggested to DASD(MIL) last week be included in a Dr. Korb reply to a Mr. Dellums question of what can he do to help the family housing situation in Europe.

DAEN-ZCZ-A

SUBJECT: VCSA Briefing on USAREUR AFH, 25 April 1985

25 April 1985

3. General Thurman commented that ESC had not explored the impediments to the build-to-lease program. He believes if we have the funds (which we do) and the allocations (which we do for this year at least) we should be able to move the program much faster. He tasked ESC to look at the impediments and let him know how we can get "out of the jam." He also asked ESC to show the economics of BAQ/Rent Plus vs. build-to-lease (ESC).

4. ESC agreed to a 30-day suspense for its tasks (para 2c, 3).



HENRY J. HATCH
Major General, USA
Assistant Chief of Engineers

4 Encl

CF:
COE
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DCSPER
✓ Cdr, ESC
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CLL
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LAST PAGE OF ANNEX A

ANNEX B

QUALITATIVE RISK ASSESSMENT MODEL

ANNEX B

QUALITATIVE RISK ASSESSMENT MODEL

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1. Purpose. This annex describes the methodology ESC used to assess the risks associated with USAREUR's ability to acquire the additional economy family housing assets outlined in the FHAP.

2. Scope. This annex describes the factors ESC developed to perform a qualitative risk analysis and the criteria chosen for establishing levels of risk. Eight military communities were analyzed using this approach.

3. Background. The major difficulty in performing a housing market analysis is that there is no single, standard technique for developing a market forecast. A market analysis depends on assessing the impact of demographic and economic factors on future housing trends. Validity is a function of the accuracy of available statistical data, the reliability of developed estimates, and luck in the course of actual events. For these

reasons, it is not possible to state with certainty whether USAREUR's economy family housing goals can or cannot be achieved. It is, however, possible to subjectively determine the risks involved by observing the communities' past performance, populations and housing trends, recent market analyses, unemployment rates, and other economic indicators.

4. Method. The procedures outlined in this annex are based on ESC's experience with using risk analysis techniques. Information was collected from various sources including USAREUR housing managers, local FRG officials, US Embassy personnel, and German statistical publications.

5. Overview of Analysis. The analysis is based on traditional qualitative risk analysis techniques. The following provides an overview of ESC's approach.

a. Step 1: Define risk levels. For the purpose of this analysis, risk is defined as the probability that goals for economy assets will not be achieved. In a qualitative risk assessment, risk is grouped into broad categories. No attempt was made to establish a specific point estimate since this would imply a level of accuracy that does not exist. Figure B-1, in its display of the range of probabilities associated with each descriptive level of risk, illustrates the wide allowances made in judging the quality of future projections.

QUALITY OF FUTURE PROJECTIONS

Risk Category	Probability of not Achieving Goal
Low	0 - 0.20
Moderate	0.20 - 0.50
High	0.50 - 1.00

Figure B-1

b. Step 2: Establish performance indicators. To assess the risks associated with USAREUR's program, some performance criterion which reflects risks associated with USAREUR'S ability to acquire additional assets should be used. Since no one statistic can reflect this ability totally, ESC chose five separate performance indicators and evaluated them independently. They are:

(1) Average annual gains in economy assets. This statistic is a measure of USAREUR's past performance in obtaining economy assets and is expressed as units per year. The last 2 years were used to compute an average.

(2) Projected annual availability of community housing. This is a projection of the community rental units that should be obtainable by service members and is expressed as units per year. Using historical data, an average annual increase in rental housing was computed. The result was adjusted for future trends, population growth, and the service member's ability to compete in the market.

(3) Mid-year status of FY 85 goal. This indicator is a comparison of the community's current inventory of economy assets (for service members of the grade of E-4 and above) to the FY 85 goal in the FHAP.

(4) Unemployment trends. A community's unemployment rate reflects the economic environment. If the rate is high, service members can better compete for moderate-to-high priced rental units. In addition, the number of households tends to decrease in poor economic periods, creating additional vacant apartments.

(5) Geographic locations. The community's location near or within urban and industrial centers impacts on the amount of construction, the

proportion of social housing constructed, the stability of the population, and the relative sensitivity to economic trends of housing.

c. Step 3: Establish decision criteria. For each of the performance indicators, ESC established the necessary criteria to determine if a community should be categorized as low, moderate, or high risk. These criteria are summarized in Figure B-2.

d. Step 4: Perform analysis. This step involves the collection and analysis of sufficient data to support identification of the performance indicators and assessment of risk levels. Once completed, the overall risk is determined by subjectively combining the risks for each performance indicator.

6. Analysis of Bamberg. This paragraph describes ESC's risk analysis of the community of Bamberg. A similar analysis was performed for each of the eight selected communities considered by this study.

a. Evaluation of performance indicators.

(1) Average annual gains in economy assets. Over the past 2 years, Bamberg has gained an average of 213 economy units per year. The FHAP for Bamberg projects an average gain of 63 units per year. Since Bamberg's past performance far exceeds future expectations, this would indicate a low risk.

(2) Projected annual availability of community housing. The average annual increase of community housing in the Bamberg area is 1,133 units. Future projections in the area's housing market show a slight downward trend. Therefore, the average was adjusted by a factor of 0.9. Figure B-3 show the total adjustment factor is 0.034. In other words, Bamberg is allocated 3.4 percent of the community's increase, or 39 units. This places Bamberg at a moderate risk level compared to the average requirement of 63 units identified in the FHAP.

DECISION CRITERIA

Performance Indicator	Risk		
	Low	Moderate	High
Average annual gains in Economy Assets (EA)	More than 160% of the average annual gains in FHAP.*	Between 100 to 160% of the average annual gains in FHAP.*	Less than 100% of the average annual gains in FHAP.*
Projected annual availability of community housing (CH).	Same as above.	Same as above.	Same as above.
Mid-year status of FY 85 Goal (MS).	More than 40% of the total FY 85 goal.	Between 25 to 40% of the total FY 85 Goal.	Less than 25% of the total FY 85 goal.
Unemployment trends (UT)	High Unemployment	Moderate Unemployment	Low Unemployment
Geographic location (GL)	Urban and industrial	Semi-rural and semi-industrial.	Rural and non-industrial

*Assumes that 50 percent of new assets are occupied by accompanied soldiers in paygrades E4 and above.

Figure B-2

BAMBERG ADJUSTMENT FACTORS

Source	Factor	Rational
Future Trend in Housing	0.9	Slight decrease
Population Trend	1.33	Steady decline
Percentage of total housing which is rental	0.6	FRG average
Percentage of total housing which is non-social*	0.95	Rural area
Obtainable by HRO	0.05	Bamberg estimate
Overall Adjustment	0.034	

*Social housing is the German equivalent of a public housing project.

Figure B-3

(3) Mid-year status of FY 85 goal. As of March 1985, Bamberg reported 795 units occupied by service members of the paygrade of E-4 and above. This is 93 percent of its FY 85 goal of 852 units. This would indicate a low risk.

(4) Unemployment trends. Bamberg is currently experiencing an unemployment rate somewhat higher than the current FRG average (10 percent). Projections seem to indicate a range of 10 to 12 percent for the coming years. Since more housing is available to service members when the local unemployment rate is high, Bamberg's high unemployment indicates a low risk.

(5) Geographic location. Bamberg is a relatively rural community with a limited industrial base. This indicates a stable population and minimum turnover of housing in the public sector. For geographic location, Bamberg warrants a high risk.

b. Determination of overall risk. Since three indicators established a low risk and one indicator each was recorded for a moderate and high risk, some subjectivity must be used to establish overall risk. Because there

is at least one high risk factor, it is logical to assess the overall risk for Bamber as moderate.

7. Summary. The risk analysis technique described in this annex does not develop a numerical projection of economy gains. Rather, it attempts to "validate" a previously developed estimate by attempting to describe the uncertainty associated with the estimation process. Since several performance indicators are used and risk is grouped into broad categories, the model is not sensitive to moderate changes in input data or assumptions. However, the results can be very helpful to programmers and planners.

ANNEX C

HISTORICAL PERFORMANCE OF EIGHT COMMUNITY HROs

ANNEX C

HISTORICAL PERFORMANCE OF EIGHT COMMUNITY HROs

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1. Purpose. This annex describes the historical performance of the Housing Referral Office (HRO) for the eight communities visited by ESC during this study.

2. Background. ESC collected data on each community's ability to acquire and retain assets, so that ESC could evaluate the risk associated with

the community achieving its FHAP goal for FY 90. In general, data were assembled for each 6-month interval from October 1982 to March 1985 (30 months).

3. Sources. The source document was the Housing Referral Service Report DD Form 1656 (Figure C-1), which each community compiles semi-annually (for October 1 through March 31 and for April 1 through September 30). Past HRO performance was assessed by extracting the following data from the HRO report.

a. Gains and total units. Economy unit gains and the new total number of units were extracted from line 14d and 15d of DD Form 1656 (highlighted in Figure C-1). The gains shown should be the number of units which the HRO has inspected and found suitable to be occupied by US personnel during the 6-month period reported on the form. Some of these units may already have US personnel in them by the end of the period. The new total units is a running total of all units currently on the HRO's books either as an occupied unit or as a unit suitable to be occupied by US personnel. Units can be rented to accompanied soldiers, unaccompanied soldiers, single soldiers, and DOD civilians, including teachers and Non-Appropriated Fund (NAF) employees.

b. Unit losses. Economy unit losses are found in one of the many annexes to the community's DD Form 1656. Communities must list the reasons why listings were removed. Many listings are lost because the landlord changes his mind and removes a listing before the unit is occupied; more are lost when the unit becomes vacant and the landlord decides to no longer offer his unit to Americans.

c. Available units. Those units listed, but not presently occupied by US personnel, are considered to be available or vacant. Some of these units will eventually be rented by soldiers or DOD civilians and become a firm economy asset. If any of these units are later rented by Germans or removed

DD FORM 1656: HOUSING REFERRAL SERVICES REPORT

INSTALLATION		COMMAND		SERVICE		REPORTING PERIOD		REPORT CONTROL SYMBOL	
HRO Esbjerg		USAREUR		Army		1 Oct 83-31 Mar 84		DD- BL (SA)(SA)131	
						TYPE OFFICE		MILITARY PERSONNEL ASSIGNED OR ATTACHED	
						<input type="checkbox"/> JOINT <input type="checkbox"/> COORDINATED		<input type="checkbox"/> OVER 500 <input type="checkbox"/> 500 OR LESS	
						<input checked="" type="checkbox"/> SINGLE			
SECTION A - PERSONNEL PROCESSED AND HOUSED									
REPORTING TO HRO		ASSISTANCE REQUESTED		HOUSED THROUGH HRO		OTHER HOUSING		TYPE	
NUMBER		PERCENT		TOTAL		RENTAL SALES		RECEIVED	
1. MINORITY		213		83		212		44	
2. CY TOTAL (Minority)		407		79		272		0	
3. NON-MINORITY		322		79		272		0	
4. CY TOTAL (Non-Minority)		650		83		484		0	
5. 6 MONTHS TOTAL		540		83		484		0	
6. GRAND TOTAL CY									
SECTION B - COMPLAINTS									
7. DISCRIMINATION		0		0		0		0	
8. CY TOTAL		0		0		0		0	
9. TENANT		0		0		0		0	
10. LANDLORD		0		0		0		0	
11. CY TOTAL		0		0		0		0	
SECTION C - SPECIAL ACTIONS RESULTING FROM HOUSING DISCRIMINATION									
12. REASSIGNMENT		0		0		0		0	
13. PRIORITY ASSIGNMENT HOUSING		0		0		0		0	
SECTION D - COMMUNITY HOUSING ASSETS									
14. CURRENT PERIOD		172		233		(163 - 53)		(225 - 24)	
15. TOTAL TO DATE		255172		3745232		1124		1449	
SECTION E - HRO STAFFING									
16. JULIAN		8		6		0		0	
17. OFFICER		0		0		0		0	
18. ENLISTED		1		0		0		0	
19. TOTAL		9		8		0		0	
SECTION F - REMARKS									
Part I: There is no minority member working in HRO									
Part II: Other Assistance Provided - See attached sheet									
Part III: Status of Discrimination Complaint - See attached sheet									
Part IV: Economy housing Profile - See attached sheet									
Part V: Rationale for units lost - See attached sheet									
Part VI: US Personnel residing on the Economy - See attached sheet									
SIGNATURE AND TITLE									

DD FORM 1656
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EDITION OF 1 JUL 68, IS OBSOLETE.

Figure C-1

from the rental market, they will show up as losses during the next reporting period.

d. Occupied by E-4 and above. The number of suitable economy units occupied by command-sponsored soldiers in paygrades E-4 and above, as of March 1985.

e. Number on the waiting list. For those communities which use a waiting list referral system for placing service members in economy family housing units, the number waiting to be housed is often reported. When communities operate an open referral system, this information is generally not reported.

f. Alternate sources. Community monthly or quarterly reports were collected during the study team visits to provide additional information not found in the DD Form 1656 HRO report.

4. Community Summaries. The historical performance for the eight communities visited is shown in Figures C-2 through C-9. When discrepancies were found in the calculations of previous and new balances, the corrections were made and footnotes inserted as necessary.

a. Baumholder (Figure C-2). The Baumholder community has steadily increased its balance of listings over the last 2 years, even though the rate of increase slowed during the last period. The large number of soldiers on the waiting list for March 1985 (140) indicates that Baumholder's service members must be finding that many of the 270 available units are not suitable for them. Baumholder indicated this might be the result of the October 1984 USAREUR policy change requiring that soldiers who use an economy quarters address to justify family travel must remain at that economy address for at least 1 year.

PRIVATELY LEASED FAMILY HOUSING UNITS
Community: Baumholder

	Mar 83*	Sep 83	Mar 84	Sep 84	Mar 85
Gains		178	347	275	187
Losses		167	161	125	165
Net Change		11	186	150	22
Previous Balance		1,333	1,344	1,530	1,680
New Balance	1,333	1,344	1,530	1,680	1,702
Available (vacant)		36	7	129	270
Occupied		1,308	1,383	1,551	1,432
Occupied (E4 and up)**			598	653	625
Waiting List					140

*Not available.

**Adequate units occupied by command-sponsored E4s and up.

Figure C-2

PRIVATELY LEASED FAMILY HOUSING UNITS
Community: Frankfurt

	Mar 83	Sep 83	Mar 84	Sep 84	Mar 85
Gains	239	265	210	350	208
Losses	12	12	44	239	678
Net Change	227	253	166	111	-470
Previous Balance	2,576	2,803	3,056	3,222	3,333
New Balance	2,803	3,056	3,222	3,333	2,863
Available (vacant)	0	0	59	31	31
Occupied	2,803	3,056	3,163	3,302	2,832
Occupied (E4 and up)*	315	449	576	455	518
Waiting List	889	710	201	373	189

*Adequate units occupied by command-sponsored E4s and up.

Figure C-3

PRIVATELY LEASED FAMILY HOUSING UNITS
Community: Giessen

	Mar 83	Sep 83	Mar 84	Sep 84	Mar 85
Gains	183	216	247	211	189
Losses	151	109	147	157	129
Net Change	32	107	100	54	60
Previous Balance	675	707	814	914	968
New Balance	707	814	914	968	1,028
Available (vacant)	8	20	6	18	55
Occupied	699	794	908	950	973
Occupied (E4 and up)*	NA**	267	341	340	419
Waiting List	108	90	89	62	96

*Adequate units occupied by command-sponsored E4s and up.
**Not available.

Figure C-4

PRIVATELY LEASED FAMILY HOUSING UNITS
Community: Bamberg

	Mar 83	Sep 83	Mar 84	Sep 84	Mar 85
Gains	169	176	225	259	227
Losses	67	145	84	107	125
Net Change	102	31	141	152	102
Previous Balance	1,175	1,277	1,308	1,449	1,601
New Balance	1,277	1,308	1,449	1,601	1,703
Available (vacant)	8	15	18	29	29
Occupied	1,269	1,293	1,431	1,572	1,674
Occupied (E4 and up)*	564	597	748	752	795
Waiting List	220	216	159	120	111

*Adequate units occupied by command-sponsored E4s and up.

Figure C-5

PRIVATELY LEASED FAMILY HOUSING UNITS
Community: Crailsheim

	Mar 83	Sep 83	Mar 84	Sep 84	Mar 85
Gains	39	49*	25	7	26
Losses	25	22	28	-79	28
Net Change	14	27	-3	-72	-2
Previous Balance	192	206	233	230	158
New Balance	206	233	230	158	156
Available (vacant)	5	6	13	31	6
Occupied	201	227	217	127	150
Occupied (E4 and up)**	57	74	NA***	85	0
Waiting List	52	57	22	6	11

*Constructed from other data for this time period; this value listed was 27.

**Adequate units occupied by command-sponsored E4s and up.

***Not available.

Figure C-6

PRIVATELY LEASED FAMILY HOUSING UNITS
Community: Schweinfurt

	Mar 83	Sep 83	Mar 84	Sep 84	Mar 85
Gains	221	203	303	288	216
Losses	69	86	80	156	135
Net Change	152	117	223	132	81
Previous Balance	1,365	1,517	1,634	1,857	1,989
New Balance	1,517	1,634	1,857	1,989	2,070
Available (vacant)	NA*	NA*	NA*	0	0
Occupied	NA*	NA*	NA*	1,989	2,070
Occupied (E4 and up)**	643	574	545	473	496
Waiting List	408	465	384	286	156

*Not available.

**Adequate units occupied by command-sponsored E4s and up.

Figure C-7

PRIVATELY LEASED FAMILY HOUSING UNITS
Community: Mannheim

	Mar 83*	Sep 83*	Mar 84	Sep 84	Mar 85
Gains			259	181	259
Losses			77	79	77
Net Change			182	102	182
Previous Balance			1,839	2,021	2,123
New Balance			2,021**	2,123**	2,305**
Available (vacant)			34	38	98
Occupied			2,045	2,085	2,228
Occupied (E4 and up)**			1,055	1,003	1,100
Waiting List***					

*Not available.

**A reconciliation was made to correct totals.

***Adequate units occupied by command-sponsored E4s and up.

Figure C-8

PRIVATELY LEASED FAMILY HOUSING UNITS
Community: Heidelberg

	Mar 83*	Sep 83*	Mar 84	Sep 84	Mar 85
Gains			248	323	288
Losses			13	20	140
Net Change			215	303	148
Previous Balance			1,871**	2,086**	2,389***
New Balance			2,086**	2,389**	2,537
Available (vacant)			0	75	163
Occupied			2,086	2,314	2,374
Occupied (E4 and up)***			NA*	NA*	779
Waiting List*					

*Not available.

**A reconciliation was made to correct totals.

***Adequate units occupied by command-sponsored E4s and up.

Figure C-9

b. Frankfurt (Figure C-3). According to the Frankfurt HRO, the large loss of economy assets in March 1985 resulted from:

(1) Purging listings of vacant units which are no longer being offered to Americans.

(2) Service members and civilians leaving the community without terminating their leases.

c. Giessen (Figure C-4). The subcommunities of Bad Neuheim and Butzbach were not included. This community's placement of command-sponsored service members in paygrades E-4 and above has been improving for the time periods examined. This could be attributed to the fact that Giessen is one of the test communities for the 1-year-on-the economy program. The community's waiting list decreased for all periods except March 1985.

d. Bamberg (Figure C-5). This community has increased the number of service members in paygrades E-4 and above who are housed on the economy, while decreasing the number of service members waiting to be housed.

e. Crailsheim (Figure C-6). As the result of a unit deactivation, the military strength of Crailsheim decreased during the March 1984 reporting period. As a result of the deactivation, leases were terminated to keep government quarters filled. Many units were listed as lost due to landlords renting to other Germans.

f. Schweinfurt (Figure C-7). Schweinfurt has made significant gains each time period and has reduced its waiting list from over 400 to about 150.

g. Mannheim (Figure C-8). Data were not available for March 1983 and September 1983 for Mannheim. Also, since Mannheim uses open referral, no waiting list information could be collected.

h. Heidelberg (Figure C-9). The Heidelberg community did not have data for March or September 1983. In March, Heidelberg corrected its total listings by purging units which were listed as available and vacant, but which were, in fact, unavailable to Americans. Therefore, the two previous columns have some reconstructed numbers. Since Heidelberg uses open referral, no waiting list information was available.

5. Other Considerations. The DD Form 1656 is the tool used to report the performance of the HRO. This report lacks credibility for the following reasons:

- a. An audit trail is not kept of changes.
- b. Terms used to describe the economy assets (i.e., adequate, inadequate, suitable, and substandard) are interpreted differently by each community.
- c. Inaccuracy exists in the total inventory of assets and the number of assets vacant for consecutive reporting periods.

6. Summary. Although some data elements are missing, Figures C-2 through C-9 provide a review of past performance of each community. Generally, the communities are continuing to increase their economy housing inventory. The two exceptions are Frankfurt and Crailsheim, which may have lost units for good reasons.

END

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