



**United States Military Academy  
West Point, New York 10996**

**Foreign Area Officer Life  
Cycle Model**

**Captain Peter N. Courtois**

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# **Foreign Area Officer Life Cycle Model**

**A Simulation Model  
For Evaluating  
Accessioning Strategies**

by

**Captain Peter N. Courtois**

**A Technical Report  
of the  
Operations Research Center  
United States Military Academy**

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## Vita

Captain Peter N. Courtois was born in Lincoln, Nebraska in 1959. He graduated from the United States Military Academy in 1981 and received a commission as a Second Lieutenant in the Corps of Engineers. CPT Courtois served in a variety of military assignments in Virginia, Oklahoma, Texas, and the Republic of Korea until 1987. In 1989, he completed graduate school and received his Master of Science in Industrial Engineering (Operations Research) from Texas A&M University prior to beginning an assignment as an instructor on the faculty at the United States Military Academy. CPT Courtois spent his first year on the faculty teaching courses in engineering decision methods and computer simulation. For the past year and a half, CPT Courtois has worked as an analyst in the Operations Research Center.

## Acknowledgments

The Foreign Area Officer Life Cycle Project began with the efforts of Major Gary Krahn during fiscal year 1990. Major Krahn initially developed a model to evaluate accessioning strategies and single/dual-tracking strategies for foreign area officers with an area of concentration in Eastern Europe (48E). MAJ Krahn's model set the foundation for the current version of the FAO Life Cycle Model.

Colonel Grant Lorenz and Major Keith Kernek of the Foreign Area Officer Proponent Office, ODCSOPS provided valuable assistance as the end user of the model results and insights by assisting in development and validation. The Proponent supplied data on all aspects of the FAO program, particularly the FAO training program, personnel trends, and assignment considerations.

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## Executive Summary

The Foreign Area Officer Life Cycle Model is a discrete-event simulation model that evaluates the effects of different accessioning strategies<sup>1</sup> on the future inventory of officers within the FAO program. All nine areas of concentration must compete for a limited number of accessions. Under current conditions, the FAO program accesses less than 150 new officers annually. This constraint necessitates the ability to efficiently distribute these officers throughout all AOCs to best meet the inventory requirements of the FAO program.

After evaluating several accessioning strategies, the model results support distributing the accessions across the AOCs according to the AOC's proportion of total authorizations. This strategy develops the best inventory for all ranks and AOCs. The recommended strategy distributes captain accessions as listed in the table below.

<u>Identifier</u>	<u>Area of Concentration</u>	<u>Proportion</u>
48B	Latin America	20.0 %
48C	West Europe	14.5 %
48D	South Asia	2.8 %
48E	East Europe	20.7 %
48F	China	4.1 %
48G	Middle East	19.3 %
48H	Northeast Asia	6.9 %
48I	Southeast Asia	4.8 %
48J	Sub-Saharan Africa	<u>6.9 %</u>
		100.0 %

The current FAO Life Cycle Model allows for the evaluation of both accession strategies and single/dual-tracking strategies.<sup>2</sup> Each of these strategies affect the FAO inventory differently. Accessions strategies primarily affect the FAO inventory in the long term and do not influence the current inventory of FAOs. An accession strategy affects the inventory of officers in their fifth year of service and requires approximately fifteen to twenty years before beginning to impact the inventory of FAOs through the rank of colonel. Consequently, accession strategy changes generally affect the composition of the future FAO inventory.

---

<sup>1</sup> This study defines an accession strategy as a method for distributing annual accessions among the different areas of concentration.

<sup>2</sup> Normal career patterns are dual-tracking and alternate between basic branch assignments and functional area assignments. Single-tracking career patterns have successive assignments in either an officer's basic branch or functional area. A single-tracking strategy details the percentages of officers permitted to single-track. Normally, only senior lieutenant colonels and colonels single-track.

Unlike accession policies, policies governing the single-tracking of FAOs in the grades of major, lieutenant colonel, and colonel will influence both the current and future inventories of senior officers available to serve in FAO assignments. The short-term impact results from increasing the number of officers in these ranks who do not split time between branch and FAO assignments. In theory, single-tracking minimizes FAO inventory requirements. One single-tracked officer performs roughly the same amount of FAO duty as two dual-trackers. In practice however, officers who single-track early have not remained competitive for advancement within the Army. Since it is the current position of the FAO Proponent Office to recommend dual-tracking for FAOs, this report assumes only officers in the ranks of lieutenant colonel and colonel who are not selected for command can single-track.

# 1. Introduction

Foreign area officers (FAOs) serve the United States Army in positions requiring military linguists, regional expertise, and political-military expertise. FAOs provide the critical link between our government and foreign governments on affairs of a political-military nature. FAOs prepare for these assignments through an extensive development program, basic branch competitiveness, and increasingly demanding FAO assignments.

During Operation Desert Shield/Desert Storm, FAOs demonstrated their value as qualified political-military experts and linguists. General Schwarzkopf lauded their accomplishments in the Spring/Summer 1991 edition of the FAO Newsletter.

It was our great fortune to have on hand a team of officers who had devoted themselves to the language, politics, religion, and sociology of the Middle East region. In the sensitive politico-military climate, they provided the sound, timely advice which helped prevent misunderstanding and friction. Without them, my job would have been considerably more difficult.

Foreign area officers hold a numerical functional area designator of 48 and an area of concentration identifier for a geographical area of expertise. Area of concentration identifiers fall into one of the nine categories in Table 1.1.

<u>Identifier</u>	<u>Area of Concentration</u>
48B	Latin America
48C	West Europe
48D	South Asia
48E	East Europe
48F	China
48G	Middle East
48H	Northeast Asia
48I	Southeast Asia
48J	Sub-Saharan Africa

Table 1.1. Areas of Concentration

With the exception of an extensive training program, FAOs follow a typical dual-tracking career pattern similar to most branch and functional area combinations. The successful FAO must have a solid branch background to remain successful and competitive in the FAO program. Alternating assignments between the officer's basic branch and a FAO position highlight the career pattern of the most successful FAOs.

Over the past two years, the Operations Research Center (ORCEN) has provided analysis of current and proposed management policies for the Foreign Area Officer Proponent Team, Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS). The FAO Proponent develops the management policies that access prospective officers into

the FAO program. Once accessed, the FAO Proponent manages their training program. FAO training includes formal language training, graduate schooling, and in-country training. Additionally, the proponent establishes policies concerning single-tracking opportunities for foreign area officers.

The ORCEN assists the FAO proponent by analyzing the effects of accession strategies and single/dual-tracking strategies on the FAO inventory. The overall objective of the study is to develop a sensible strategy for allocating the number of accessed officers to meet position requirements. To this end, the ORCEN developed a discrete-event simulation model of the life cycle these officers follow from the time of their accession into the FAO program until either their departure from the US Army or their termination from the FAO program. Officers terminate from the simulation through normal attrition, retirement (a form of attrition), or disqualification as a FAO.

## 2. Assumptions

The FAO program follows the management policies of both the Army Personnel Command (PERSCOM) and the FAO Proponent Office. This study assumes these policies accurately reflect long term management intentions. Although this assumption may prove invalid over time, it is a necessary assumption until future management strategies become available for inclusion in the model. The FAO Life Cycle Model integrates these management policies into the model logic.

The current personnel system contains many uncertainties associated with the draw down of the Army end-strength. All aspects of the system, to include promotion rates, continuation rates, and school selection rates are in flux and probably will not stabilize until after the conclusion of personnel draw downs. Since the FAO Life Cycle Model utilizes these rates in determining future levels of the FAO inventory, the model assumes the school selection rates, promotion rates, and continuation rates achieved during 1988 and 1989, a period of relative stability for the U.S. Army, reasonably approximate the rates expected following the current period of change. The major assumptions included in the modeling logic of the FAO Life Cycle Model follow.

Officers will continue selecting a functional area during their 5th year of service. Those who select the FAO functional area begin FAO training sometime between their 5th and 8th year of service. They access according to the following distribution.

5% during the 5th year of service
25% during the 6th year of service
60% during the 7th year of service
10% during the 8th year of service

Table 2.1. 5th - 8th Year Accession Plan

FAO officers are unavailable for a FAO assignment until completion of language training, graduate school, and in-country training.

Officer selection points and promotion points occur according to the schedule in table 2.2. (in years of service).

	MAJ	LTC	COL
Selection	9.8	16.4	21.7
Promotion	11.75	17.5	22.6

Table 2.2. Selection and Promotion Timetable

Officers in a promotable status are managed in the next higher grade once they become available for an assignment. A promotable officer serving in an assignment at the higher grade is considered to be part of the inventory of the higher grade.

Officers selected for either command or schooling begin these assignments immediately following the completion of their current assignment.

Long term selection rates for schools, promotions, and commands follow the trends established during the late 1980's when the U.S. Army personnel situation remained relatively stable. Tables 2.3., 2.4., and 2.5. present these selection rates.

85% Selection to Major
70% Selection to Lieutenant Colonel
98% Selection of SSC Grads to Colonel
40% Selection of CGSC Grads to Colonel
20% Selection of all others to Colonel
1% Selection to Brigadier General

Table 2.3. FAO Promotion Rates

46% Selection to CGSC
70% Selection of Former Bn Cdrs to SSC
4% Selection of CGSC Grads to SSC

Table 2.4. FAO School Selection Rates

25% Selection of CGSC Grads to Bn Cmd
35% Selection of Former Bn Cdrs to Bde Cmd

Table 2.5. FAO Officer Command Selection Rates

Similar to selection rates, FAO continuation rates for the time period 1988-1989 will be reestablished over the long-run. Table 2.6. contains FAO continuation rates

<u>YOS</u>	<u>CPT</u>	<u>MAJ</u>	<u>LTC</u>	<u>COL</u>
0-1	0	0	0	0
1-2	0	0	0	0
2-3	0	0	0	0
3-4	0.7863	0	0	0
4-5	0.8529	0	0	0
5-6	0.8976	0	0	0
6-7	0.9524	0	0	0
7-8	0.9568	0	0	0
8-9	0.9812	0	0	0
9-10	0.9772	0.9702	0	0
10-11	0.9881	0.9768	0	0
11-12	0.9435	0.9519	0	0
12-13	0.9808	0.9917	0	0
13-14	0.8579	0.9962	0	0
14-15	0	0.9917	0	0
15-16	0	0.9918	0	0
16-17	0	0.9830	0.9853	0
17-18	0	0.9907	0.9955	0
18-19	0	0.9788	0.9999	0
19-20	0	0.8929	0.9999	0
20-21	0	0.5758	0.9127	0
21-22	0	0.5669	0.9000	0.9310
22-23	0	0	0.8580	0.9123
23-24	0	0	0.8333	0.9999
24-25	0	0	0.6667	0.9176
25-26	0	0	0.5806	0.9029
26-27	0	0	0.6800	0.8692
27-28	0	0	0.7573	0.7143
28-29	0	0	0.4042	0.6557
29-30	0	0	0.5196	0.7143

Table 2.6. Continuation Rates

Branch assignments terminate after either one, two, or three years, and FAO assignments terminate after two, or three years. Branch tour lengths conform to the distributions in table 2.7., and FAO tour lengths conform to the distributions in table 2.8.

	<u>1 Yr</u>	<u>2 Yr</u>	<u>3 Yr</u>
MAJ	5%	5%	90%
LTC	10%	10%	80%
COL	10%	40%	50%

Table 2.7. Branch Tour Lengths

	<u>2 Yr</u>	<u>3 Yr</u>
MAJ	2%	98%
LTC	4%	96%
COL	20%	80%

Table 2.8. FAO Tour Lengths

FAO requirements include approximately eighty 48A positions. Officers from all areas of concentration fill these positions. Therefore, each area of concentration receives a proportional number of 48A assignments.

### **3. The Foreign Area Officer System**

The FAO program must develop Army officers who are first class soldiers, linguists, regional experts, and political-military experts. Once trained, the FAO program utilizes FAOs in key Department of Defense (DOD) and interagency positions to formulate and execute U.S. politico-military policy (FAO Proponent, 1992, p.2). The following sections describe the significant events and assignments involved in training and developing FAOs.

#### **3.1. Accessions**

Prior to becoming a FAO, Army officers usually spend the first five to eight years on active duty serving in assignments for their basic branch; branches such as infantry, artillery, or engineer. During this time, officers work to become qualified in the basic branch to which they belong. Branch qualification usually occurs after successfully completing the branch advance course and company-level command. Branch qualification provides each officer with the basic troop leading experience and field experience required of a junior officer accessed into the FAO program.

At the five year mark, dual-tracking officers must designate a functional area that becomes a secondary area of expertise. The FAO proponent accesses branch qualified junior officers who demonstrate an aptitude for foreign languages. Officers accepted into the program designate FAO as their functional areas and enter the training program upon qualification in their basic branch. School availability and the timing involved in completing assignments impact on the actual starting point of an officer's training; consequently, FAOs enter the training cycle sometime between their fifth and eighth years of service. Most FAOs begin training in their sixth or seventh year of service.

#### **3.2. Language Training**

The FAO's formal development program consists of three distinct phases; language training, graduate schooling, and in-country training. Except for special cases when a FAO enters the program fluent in the language of their designated AOC, FAOs proceed through their development in the sequence listed above. Each phase of the training cycle builds upon the previous phase. After completing the training cycle, FAOs possess the skills required to serve in field grade FAO assignments.

During the first phase, FAOs study a foreign language that coincides with a regional language within their designated AOC. In most cases, foreign language training occurs at the Defense Language Institute (DLI) in Monterey, California. Formal language studies at DLI last from 6 to 12 months.

### **3.3. Graduate School**

After completing their language studies, officers continue the formal education in their FAO area of concentration by attending graduate school. All FAOs conduct in-depth studies of a regional area within their areas of concentration. This schooling culminates with the awarding of a Master's degree. Graduate studies take place at prestigious civilian universities. The graduate program allows an officer eighteen months to complete his/her degree. Together, graduate school and language school comprise the formal studies of the region, its people, their culture, and the political environment of the area.

### **3.4. In-Country Training**

After completing their formal studies, FAOs undertake a one year program in which they experience cultural and linguistic immersion in the region. FAOs attend military schools, if available; travel throughout the country and region; and possibly study at local foreign schools. Currently, there are 46 ICT sites located throughout the 9 AOCs (FAO Proponent, 1992, p.15). Upon completion of the in-country training program, each officer is a fully trained Foreign Area Officer prepared for assignments at the rank of major.

### **3.5. Single/Dual Tracking**

The current management policies of PERSCOM and the FAO Proponent recommend a dual-tracking approach for the assignment of officers. Under a dual-tracking career pattern, officers alternate between branch and FAO assignments. As stated previously, success in branch assignments is necessary for continued success as a FAO. Foreign militaries expect FAOs to possess expert practical experience within their branches.<sup>3</sup> Consequently, the FAO Proponent considers dual-tracking the normal assignment strategy.

There are exceptions to the dual-tracking approach. A limited number of senior officers may serve as single-tracking FAOs. These officers will serve consecutive FAO assignments. If allowed, single-tracking usually occurs after non-selection to battalion command for lieutenant colonels and after non-selection to brigade command for colonels. For this study, fifty percent of lieutenant colonels not selected for battalion command will single-track at the seventeen year point, and fifty percent of colonels not selected for brigade command will single-track at the twenty-two year. These officers single-track through necessity due to the unavailability of branch positions for senior officers.

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<sup>3</sup> The FAO Proponent Office endorses a dual-tracking career pattern. The valuable branch experiences gained at field grade levels provide FAOs with much of the military expertise they bring to the position. Single-tracking careers limit or omit these experiences except in the cases of single-tracking late in a career.



## 3.6. Assignments

Assignment personnel attempt to provide each FAO with challenging branch and FAO assignments that will keep them competitive for continued advancement and greater responsibility. In doing so, assignment personnel distribute officers among assignments to best meet the needs of both the Army and the officer. However, the availability of positions limits assigning officers to branch and FAO assignments under a dual-tracking policy. For example, if a major's developmental need requires an assignment as a FAO when all the major FAO authorizations are filled, the officer must serve in a branch or branch immaterial position. Consequently, assignment personnel must develop a methodology to best prioritize officers competing for limited FAO assignments.<sup>4</sup> The subsections below outline the assignment priorities recommended by the FAO Proponent.

### 3.6.1. Major Assignment Priorities

Officers spend approximately 5-6 years as a major. During this time, most officers will have the opportunity to serve in both a branch position and a FAO position. In establishing the priority for placing officers in FAO positions, assignment personnel utilize the priorities listed in table 3.1.

- |   |
|---|
| <ol style="list-style-type: none"><li>1. Officer completing FAO assignments serve a Branch assignment.</li><li>2. Officers completing Branch assignments have first priority for FAO assignments.</li><li>3. Officers completing CGSC have second priority for FAO assignments.</li><li>4. Officers completing ICT have third priority for FAO assignments.</li><li>5. Any others have the last priority for FAO assignments.</li></ol> |
|---|

Table 3.1. Major Assignment Priorities

### 3.6.2. Lieutenant Colonel Assignment Priorities

Officers receive their promotion to lieutenant colonel around their seventeenth year of service. They remain in this rank until promotion to colonel, usually in their twenty-second year, or until retirement. During this time, most officers will have the opportunity to serve in several branch and FAO positions. Additionally, some officers will have the opportunity to serve in battalion-level command and/or attend the Senior Staff College. Officers selected for command or senior schooling attend at the earliest opportunity. In establishing the priority for placing officers in FAO positions, assignment personnel utilize the priorities listed in table 3.2.

---

<sup>4</sup> The FAO Proponent currently projects future authorizations as those established under "Notional Force 22." The projected authorizations are located in appendix C. These numbers are expected to change as the down-sizing is refined and implemented; however, substantial changes are not anticipated.

1. If selected, serve as a Battalion Commander.
2. If selected, serve as a Brigade Commander.
3. If selected, attend SSC.
4. Officer completing FAO assignments serve a Branch Assignment.
5. Single-tracking LTCs have first priority for FAO assignments.
6. LTCs without field grade FAO time have second priority for FAO assignments.
7. Former Bn Cdrs completing Branch assignments have third priority for FAO assignments.
8. LTCs without LTC FAO time have fourth priority for FAO assignments.
9. Any other officers have the last priority for FAO assignments.

Table 3.2. Lieutenant Colonel Assignment Priorities

### 3.6.3. Colonel Assignments Priorities

After receiving their promotion to colonel, most officers will have the opportunity to serve in several branch, branch-immateral, and FAO positions. Additionally, some officers will have the opportunity to serve in brigade-level command and/or attend the Senior Staff College. Officers selected for command or senior schooling attend at the earliest opportunity. In establishing the priority for placing officers in FAO positions, assignment personnel utilize the priorities listed in table 3.3.

1. If selected, serve as a Brigade Commander.
2. If selected, attend SSC.
3. Remove COLs without field grade FAO time from the program.
4. Officer completing FAO assignments serve a Branch Assignment.
5. Single-tracking COLs have first priority for FAO assignments.
6. Former Bn Cdrs without SSC have second priority for FAO Assignments.
7. Former Bn Cdrs with SSC have third priority for FAO assignments.
8. COLs without SSC have fourth priority for FAO assignments.
9. COLs with SSC have fifth priority for FAO assignments.
10. Any other officers have the last priority for FAO assignments.

Table 3.3. Colonel Assignment Priorities

## 3.7. FAO Qualification/Disqualification

Qualification of a FAO consists of two phases. The first phase of developing into a qualified FAO takes place during the training program and culminates with the successful completion of the in-country portion of the training. At this point, FAOs are qualified to serve in field grade assignments requiring the special skills of a FAO. A second FAO qualification occurs after successfully completing a FAO assignment as a field grade officer. The second qualification must occur in order to remain in the FAO program and receive more demanding assignments as a colonel FAO. Without any field grade FAO assignments, a colonel loses the FAO specialty designation. Disqualifications of this type are very costly to the Army. Consequently, it is unwise to build a FAO inventory so large such that officers are unable to receive the necessary developmental assignments as a major or lieutenant colonel.

## 4. The Life Cycle Model

The Foreign Area Officer Life Cycle Model is a discrete event simulation model that evaluates the effects of different accessioning strategies and single/dual-tracking strategies on the inventory of all officers within the FAO program. The model uses the networking approach of the SLAM simulation language developed by Pritsker Corporation. The model explicitly represents each officer belonging to the FAO inventory as an entity in the life cycle network. Upon designating functional area 48 during the fifth year of service, officers proceed through the model according to sequenced events structured after the actual officer development system. The model consists of four distinct processes or cycles; the accession process, the training cycle, the assignment cycle, and the professional development cycle. Each process/cycle receives more detailed coverage in the following sections.

The complete model integrates each of the four cycles into a single, detailed model of the entire FAO life cycle. Figure 4.1. graphically represents the complete FAO Life Cycle Model.

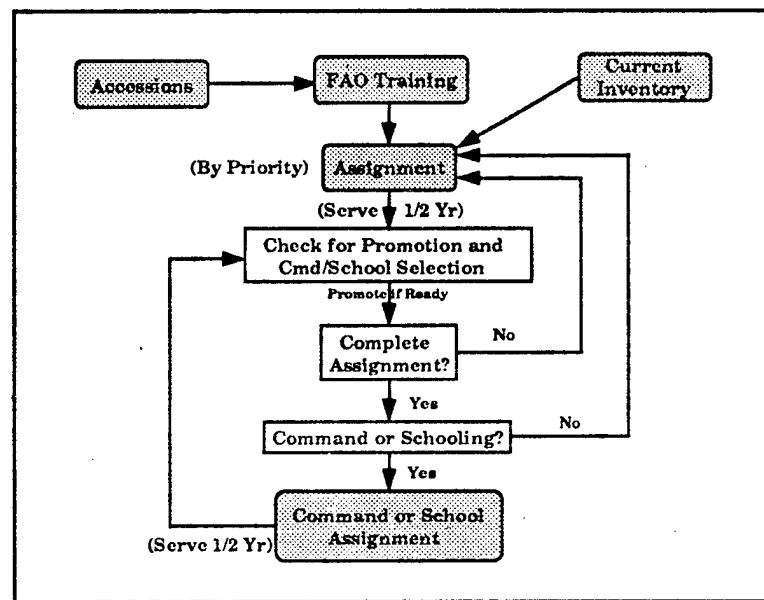


Figure 4.1. FAO Life Cycle Model

### 4.1. The Accession Process

The current model accesses 145 officers into the FAO inventory during their fifth year of service.<sup>5</sup> The model considers these officers as normal accessions. Approximately 5% begin training at this time. All other officers continue to serve in their current

<sup>5</sup> Current budget and school availability limit yearly accessions to less than 150.

assignments. At accession time, most officers need to complete branch assignments, and will not actually begin training for the FAO program until their seventh year of service. Officers become available to begin the FAO training program according to the distribution plan depicted in figure 4.2. The model places all officers either in the first phase of FAO training or in a branch assignment. From this point, all officers move through the model until they depart the FAO inventory. Departures follow the continuation patterns for FAOs indicated previously in table 2.3.

Several officers enter the FAO program during their ninth through twelfth years of service. The model considers these officers as off-cycle accessions. These accessions enter the model with slightly different training needs.

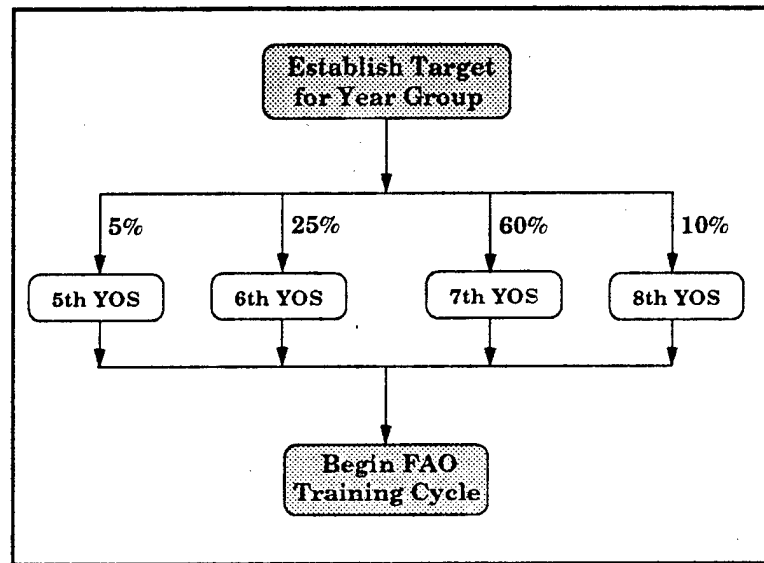


Figure 4.2. FAO Accession Process

## 4.2. The Training Cycle

The FAO training cycle consists of a sequential, three-phase training program. As discussed previously, FAO training includes twelve months of language school, eighteen months of graduate school, and culminates with twelve months of in-country training. Figure 4.3. graphically depicts this process. The model sends each officer through the training cycle, holding them in each phase for the designated length of time. It only allows officers to proceed through the cycle in the designated sequence. Every six months the model screens all officers and applies continuation rates to determine attrition from the model.

Approximately 20 officers enter the FAO program each year as off-cycle accessions. These officers usually generate an interest in the program sometime during their ninth through twelfth years of service and enter the program with some knowledge of a foreign area and its language. The majority of these officers enter the program only requiring graduate school. Consequently, the model sends these officers through a revised training cycle. These officers receive the same representation in the model as normal accessions.

Off-cycle accessions enter the assignment cycle once they complete their shortened training program.

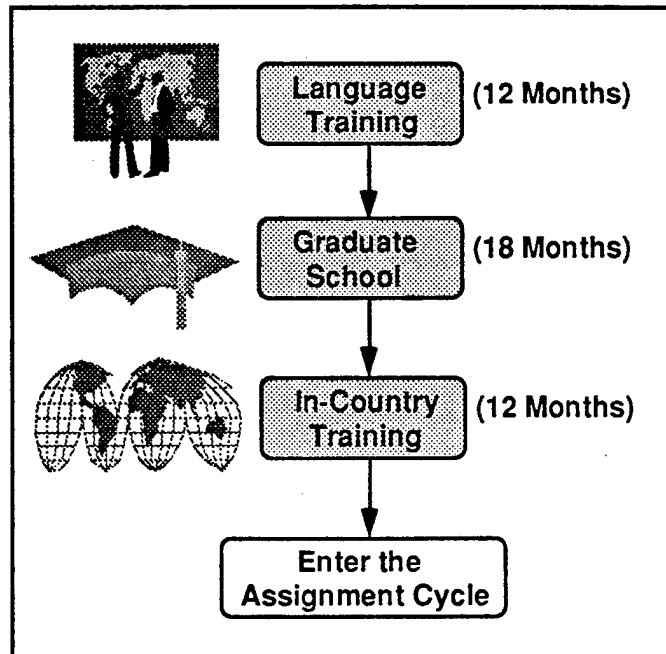


Figure 4.3. FAO Training Cycle

### 4.3. The Assignment Cycle

The model places officers in assignments using a dual-tracking career approach. Under this policy, the model defines all non-FAO assignments as branch assignments. As officers complete assignments, the model assigns them to a new assignment using the methodology described below.

As an officer becomes available for an assignment, the model assigns an assignment type and an assignment duration. The assignment type can be either a FAO or branch assignment, a command tour, or a military school. Assignment durations follow the distributions listed in tables 2.7. and 2.8. Additionally, command tours last two years and military schools last one year. The model integrates selection probabilities with an officer's assignment history to determine the next assignment. At this point, the model uses the assignment priorities for each rank to place officers in assignments. Officers serve in the assignment for the specified duration unless they depart the Army or FAO program through attrition.

The model uses a separate method for each rank to assign officers to fill assignments. The major differences between the methods reflect the differences in the number of authorized FAO positions by rank and the differing priorities for assigning officers to these positions. Figure 4.4. is a graphical representation of a dual-tracking officer cycling through assignments. When the model fills all available FAO slots for a particular rank, officers receive branch assignments. Due to the difference in the number of authorizations

between FAO positions and non-FAO positions, the model considers non-FAO positions as relatively unlimited. When an officer requires a branch position, the model always has one available.

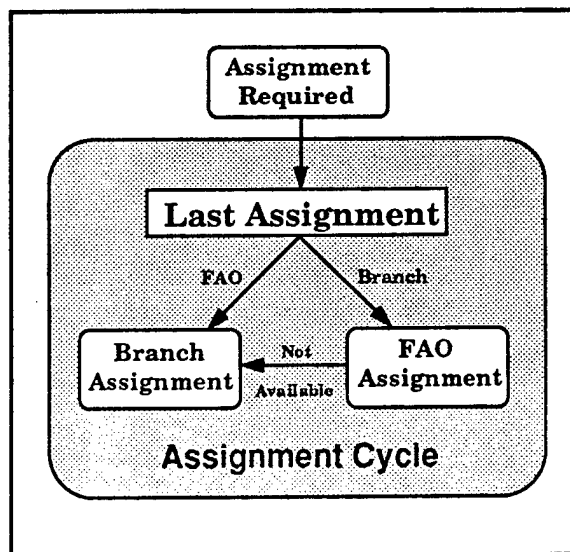


Figure 4.4. FAO Assignment Cycle

#### 4.4. The Professional Development Cycle

The professional development cycle controls promotions, school and command selections, and retirements. The model screens all officers twice yearly to determine changes in the professional attributes of each officer. As changes occur, the model updates the recorded attributes of the officers. The model performs these checks and updates without advancing time. After completing the development cycle, the model sends all officers back to their current assignment or on to a new assignment as appropriate. Changes in an officer's professional attributes during this cycle affect the officer as he/she continues through the assignment cycle.

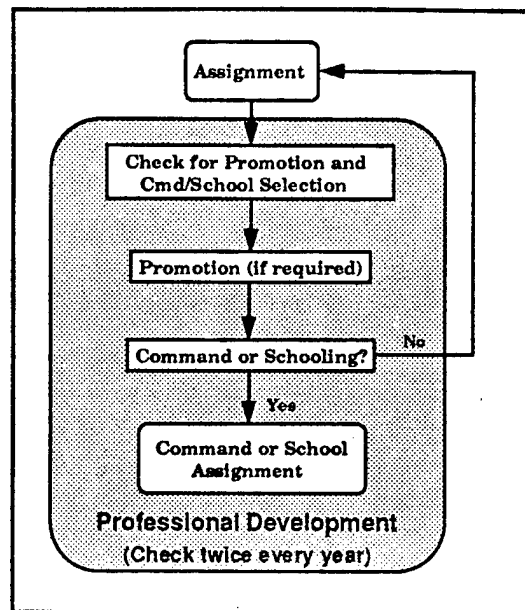


Figure 4.5. Professional Development Cycle

## 5. Evaluation of Accessioning Strategies

The primary input for the FAO Life Cycle model is the allocation of the available accession slots among the different areas of concentrations. The FAO Proponent accesses 145 officers into the FAO program yearly. The availability of both training facilities and funding limits the number of yearly accessions. The Proponent's dilemma is developing a logical strategy to distribute these officers throughout all AOCs. In short, what accession strategy best shapes the inventory to meet FAO authorizations?

This analysis includes the development and evaluation of several strategies. These strategies must consider the requirement to fill FAO positions for the grades of major, lieutenant colonel, and colonel. All ranks receive the same priority in attempting to meet authorizations.

### 5.1. Analysis of Alternatives

A baseline life cycle model simulated the accessioning process for a 35 year period. During the simulation, all the components of the model described in the previous sections interacted to imitate the actual FAO life cycle system. Four simulations were conducted, one for each accessioning strategy. The experimental conditions were identical for each simulation with the exception of the accessioning strategy. Consequently, differences between output can be attributed to the differences in the strategies. Differences include some random error; however, the experimental conditions eliminated differences due to other effects.

Each simulation experiment consisted of 20 independent runs of each strategy. Each simulation started with the model empty and idle -- no initial inventory. As a result, the simulations required at least 25 years to reach steady state conditions -- completely filled inventory. The future inventory for the year 2020 served as the year of comparison between the strategies. Data collected from each experiment included a breakdown of the inventory by rank for each AOC. Figure 5.1. shows graphical output for the major inventory using strategy one.<sup>6</sup>

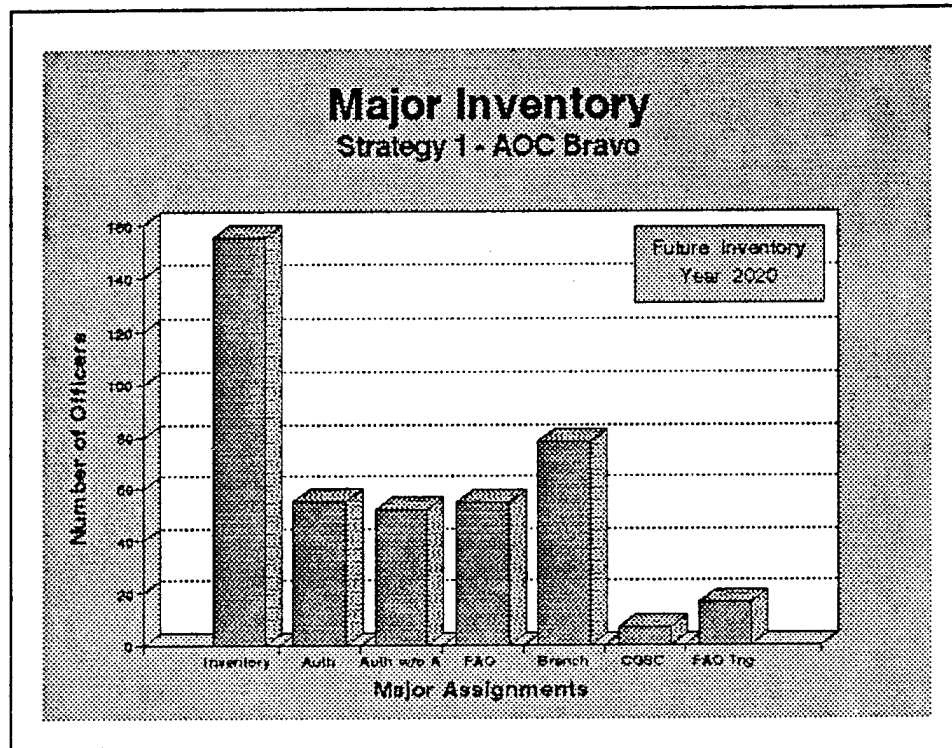


Figure 5.1. Sample Output

## 5.2. The "Push" Strategy -- Strategy 1

This strategy accesses FAOs into the program based on the proportion of major authorizations. Each AOC receives its proportional number of accessions. Table 5.1. lists strategy one accessions by AOC. By distributing accessions in this manner, strategy one attempts to access officers based on major needs and then push enough of these officer through the system to meet the needs at higher ranks. In most cases, a pyramid-shaped rank structure can accept accessions driven by major requirements and push them through

<sup>6</sup> The columns of the graph in figure 5.1. represent the total inventory and a breakdown of the inventory into different assignments. Included in the graph is the authorization level for the rank and AOC. The column labels represent the following: **Inventory**, total inventory; **Auth**, authorized number of FAO positions; **Auth w/o A**, authorized number of FAO positions without including the AOC Alpha positions; **FAO**, officers in FAO positions; **Branch**, officers in branch positions; **CGSC**, officers attending CGSC; **FAO Trng**, officers in FAO training. These labeling conventions are used throughout the report.



the system. However, all the AOCs are not pyramid-shaped, so the resulting inventory may not meet authorization levels.

<u>AOC</u>	<u># of Accessions</u>
48B	25
48C	17
48D	4
48E	37
48F	7
48G	30
48H	11
48I	5
48J	<u>9</u>
	145

Table 5.1. Strategy 1

Strategy one established the year 2020 inventories located in tables 5.2. through 5.4. for the ranks of major, lieutenant colonel, and colonel. This strategy developed a majors inventory capable of meeting the authorizations levels in all AOCs. For the ranks of lieutenant colonel and colonel, the strategy could not sustain 100% fill of all FAO authorizations. The AOCs maintained between 87 and 100 percent fill at the lieutenant colonel level and between 22 and 100 percent fill at the colonel level. At these ranks, a few low density AOCs received 100 percent fills. The strategy produced lieutenant colonel inventories between the full authorization levels and the non-Alpha authorization levels for all AOCs.

AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
B	155.5	55	52	54.6	78.1	6.75	16.05
C	109.3	38	36	37.4	55.05	4.9	11.95
D	33.65	8	8	7.85	19.95	1.6	4.25
E	211.85	80	76	79.5	101	9.85	21.5
F	49.65	16	15	15.95	24.75	2.55	6.4
G	170.75	64	61	63.4	82.05	8.1	17.2
H	71.8	24	23	23.5	36.85	2.9	8.55
I	40.95	10	10	9.95	24.4	1.75	4.85
J	61.15	19	18	18.8	31.8	2.45	8.1

Table 5.2. Major Inventory Results - Strategy 1

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
B	76.55	59	52	51.45	22.1	0.75	2.25
C	56.6	40	35	36.35	18	0.6	1.65
D	19	11	10	9.65	8.1	0.4	0.85
E	103.9	58	51	55.4	44.35	1.1	3.05
F	26	11	10	10.15	14.7	0.35	0.8
G	85.45	51	45	48.25	34.1	0.75	2.35
H	35.65	27	24	23.65	10.95	0.3	0.75
I	20.15	15	13	12.85	6.35	0.15	0.8
J	31.65	24	21	20.9	9.6	0.3	0.85

Table 5.3. Lieutenant Colonel Inventory Results - Strategy 1

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
B	14.45	40	33	11.3	2.55	0.05	0.55
C	9.9	37	31	7.1	2.3	0	0.5
D	2.55	2	2	1.4	1.15	0	0
E	19.05	26	22	15.2	3.35	0.05	0.45
F	5.15	4	3	3.1	1.9	0	0.15
G	15.7	33	27	12.85	2.45	0.05	0.35
H	6.2	5	4	3.7	2.35	0	0.15
I	4.5	11	9	3.55	0.85	0	0.1
J	7.5	10	8	6.05	1.2	0.05	0.2

Table 5.4. Colonel Inventory Results - Strategy 1

### 5.3. The "Pull" Strategy -- Strategy 2

This strategy accesses FAOs into the program based on the proportion of colonel authorizations. Each AOC receives its proportional number of accessions. Table 5.5. lists strategy two accessions by AOC. This strategy attempts to capture the magnitude of colonel authorizations and pull officers through the system to meet colonel needs. Similar to strategy one, a pyramid-shaped rank structure should accept accessions driven by colonel requirements and pull them through the system. However, even with some deviation from a pyramid-shaped structure, it may be possible to access officers in this manner and meet the authorizations at all levels.

<u>AOC</u>	<u># of Accessions</u>
48B	35
48C	32
48D	2
48E	22
48F	3
48G	29
48H	4
48I	9
48J	9
	<u>145</u>

Table 5.5. Strategy 2

Strategy two established the year 2020 inventories located in tables 5.6. through 5.8. for the ranks of major, lieutenant colonel, and colonel. Strategy two developed a majors inventory only capable of meeting the authorizations levels for most AOCs. The largest AOC, Echo, received only 81 percent of authorizations. For the ranks of lieutenant colonel and colonel, the inventory could not sustain 100% fill of all FAO authorizations. The AOCs maintained between 52 and 100 percent fill at the lieutenant colonel level and between 36 and 100 percent fill at the colonel level. At these ranks, only a few low density AOCs received 100 percent fills. The strategy produced lieutenant colonel inventories between the full authorization levels and the non-Alpha authorization levels for many of the AOCs.

AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
B	207.8	55	52	54.75	123.5	7	22.55
C	188.05	38	36	37.75	121.7	7.3	21.3
D	21.65	8	8	7.35	10.15	1.55	2.6
E	123.2	80	76	64.9	39.5	5.6	13.2
F	29.45	16	15	13.75	10.55	1.5	3.65
G	166	64	61	63.45	77.95	6.6	18
H	36.8	24	23	18.55	11.6	1.7	4.95
I	61.25	10	10	10	42.5	2.55	6.2
J	61.8	19	18	18.8	33.7	2.05	7.25

Table 5.6. Major Inventory Results - Strategy 2

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
B	104.65	59	52	56.4	44.85	1.15	2.25
C	93.45	40	35	38.35	51.95	0.75	2.4
D	12.45	11	10	8.1	3.6	0.2	0.55
E	64.2	58	51	47.35	14.65	1.1	1.1
F	16.15	11	10	9.7	5.75	0.25	0.45
G	81.95	51	45	47.2	31.5	1.15	2.1
H	18.7	27	24	13.55	4.45	0.15	0.55
I	30.1	15	13	14.6	14	0.2	1.3
J	31.45	24	21	20.85	9.15	0.4	1.05

Table 5.7. Lieutenant Colonel Inventory Results - Strategy 2

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
B	18.95	40	33	15.5	2.85	0.1	0.5
C	15.85	37	31	13.25	1.9	0.05	0.65
D	1.9	2	2	1	0.85	0	0.05
E	11.45	26	22	9.35	1.7	0.05	0.35
F	3.6	4	3	2.7	0.75	0.1	0.05
G	16.75	33	27	13.8	2.25	0.15	0.55
H	4.25	5	4	3.05	0.9	0	0.3
I	4.75	11	9	3.65	0.9	0	0.2
J	6.85	10	8	5.4	1	0.05	0.4

Table 5.8. Colonel Inventory Results - Strategy 2

## 5.4. The "Push/Pull" Strategy -- Strategy 3

This strategy accesses FAOs into the program based on the proportion of lieutenant colonel authorizations. Each AOC receives its proportional number of accessions. Table 5.9. lists strategy three accessions by AOC. This strategy attempts to meet all requirements by capturing the magnitude of lieutenant colonel authorizations. Lieutenant colonel authorizations should have some relationship to both major and colonel authorizations. If this relationship exists, accessions driven by lieutenant colonel requirements may be capable of pushing and pulling a sufficient number of officers through the system. Similar to the other strategies, this strategy attempts to overcome the deviation from a pyramid-shaped rank structure.

<u>AOC</u>	<u># of Accessions</u>
48B	29
48C	20
48D	5
48E	28
48F	6
48G	25
48H	13
48I	7
48J	<u>12</u>
	145

Table 5.9. Strategy 3

Strategy three established the year 2020 inventories located in tables 5.10. through 5.12. for the ranks of major, lieutenant colonel, and colonel. This strategy developed a majors inventory capable of meeting the authorizations levels in all AOCs. For the ranks of lieutenant colonel and colonel, the strategy could not sustain 100% fill of all FAO authorizations. The AOCs received between 91 and 100 percent fill at the lieutenant colonel level and between 24 and 100 percent fill at the colonel level. At these ranks, only a few low density AOCs received 100 percent fills. The strategy produced lieutenant colonel inventories between the full authorization levels and the non-Alpha authorization levels for all AOCs.

Time	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
E	174	55	52	54.85	92.95	7.3	18.9
C	128.15	38	36	37.75	68.85	5.55	16
D	40.25	8	8	8	25.6	1.8	4.85
E	164	80	76	77.35	62.45	6.75	17.45
F	44.05	16	15	15.5	21.1	2.2	5.25
G	147.35	64	61	63.25	63.55	5.75	14.8
H	82.6	24	23	23.95	46	3.35	9.3
I	50.1	10	10	9.85	31.85	2.7	5.7
J	75.95	19	18	19	44.85	3	9.1

Table 5.10. Major Inventory Results - Strategy 3

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
B	85.7	59	52	54.2	28.7	0.65	2.15
C	65.8	40	35	38.5	24.95	0.65	1.7
D	20.6	11	10	10.45	9.1	0.2	0.85
E	80.4	58	51	54.05	23.5	0.75	2.1
F	23.75	11	10	10.4	12.6	0.1	0.65
G	71.2	51	45	47.2	21.35	0.65	2
H	42.55	27	24	24.95	15.6	0.65	1.35
I	27.85	15	13	14.65	12.15	0.45	0.6
J	39.45	24	21	22.5	15.5	0.5	0.95

Table 5.11. Lieutenant Colonel Inventory Results - Strategy 3

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
B	16.65	40	33	13.15	2.5	0.1	0.9
C	11.1	37	31	8.4	2.1	0.15	0.45
D	2.95	2	2	1.45	1.4	0	0.1
E	14.2	26	22	11.6	2.25	0	0.35
F	3.75	4	3	2.75	0.8	0.1	0.1
G	13.1	33	27	10.65	2.25	0	0.2
H	7.75	5	4	4.25	3.35	0	0.15
I	4.75	11	9	3.9	0.7	0.05	0.1
J	7	10	8	5.55	1.2	0	0.25

Table 5.12. Colonel Inventory Results - Strategy 3

## 5.5. The "Total Authorization" Strategy -- Strategy 4

This strategy accesses FAOs into the program based on the total number of authorizations for all ranks. Each AOC receives its proportional number of accessions. Table 5.13. lists strategy four accessions by AOC. This strategy attempts to recognize the deviation from a pyramid-shaped structure by allowing the magnitude of each AOC to control the distribution of accessions. The strategy should tend to minimize any adverse effects of a non-pyramid shaped structure.

AOC	# of Accessions
48B	29
48C	21
48D	4
48E	30
48F	6
48G	28
48H	10
48I	7
48J	<u>10</u>
	145

Table 5.13. Strategy Four

Strategy four established the year 2020 inventories located in tables 5.14. through 5.16. for the ranks of major, lieutenant colonel, and colonel. This strategy developed a majors inventory capable of meeting the authorizations levels in all AOCs. For the ranks of

lieutenant colonel and colonel, the strategy could not sustain 100% fill of all FAO authorizations. The AOCs received between 89 and 100 percent fill at the lieutenant colonel level and between 27 and 100 percent fill at the colonel level. At these ranks, only a few low density AOCs received 100 percent fills. The strategy produced lieutenant colonel inventories between the full authorization levels and the non-Alpha authorization levels for all AOCs.

AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
B	174.2	55	52	54.85	92.65	7.2	19.5
C	132.35	38	36	37.7	74.8	5.7	14.15
D	35.95	8	8	8	21.3	2.55	4.1
E	170.6	80	76	78.85	67.7	6.55	17.5
F	44.95	16	15	15.55	21.9	1.95	5.55
G	163.5	64	61	63.85	76.65	6.4	16.6
H	68.3	24	23	23.5	33.9	3.5	7.4
I	51.15	10	10	10	33.7	2.25	5.2
J	64.8	19	18	18.6	36.25	2.95	7

Table 5.14. Major Inventory Results - Strategy 4

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
B	85.65	59	52	55.45	27.95	0.8	1.45
C	66.55	40	35	38.15	26.05	0.65	1.7
D	18.2	11	10	9.7	7.65	0.2	0.65
E	84.65	58	51	54.65	26.65	1.1	2.25
F	23.6	11	10	10.35	12.4	0.25	0.6
G	81.75	51	45	47.65	31.7	0.7	1.7
H	32.65	27	24	23.4	8.25	0.15	0.85
I	26.05	15	13	14	10.6	0.25	1.2
J	33.9	24	21	22.3	10.65	0.45	0.5

Table 5.15. Lieutenant Colonel Inventory Results - Strategy 4

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
B	15.85	40	33	12.65	2.6	0.2	0.4
C	12.05	37	31	9.75	2.05	0.05	0.2
D	3.35	2	2	1.45	1.85	0	0.05
E	16.3	26	22	13.4	2.35	0.05	0.5
F	3.8	4	3	2.7	1	0	0.1
G	14.5	33	27	11.4	2.75	0.05	0.3
H	5.95	5	4	3.55	2.05	0	0.35
I	4.3	11	9	3.7	0.5	0.05	0.05
J	6.2	10	8	4.9	1.15	0	0.15

Table 5.16. Colonel Inventory Results - Strategy 4

## 5.6. Alternative Comparisons

All officers follow the same assignment patterns and receive the same opportunities for promotions, schools, and commands regardless of their AOC. Consequently, the total inventories for each of the four strategies are not statistically different. Any differences in

the inventory levels of the strategies will occur in the separate inventories of the AOCs due to the distribution of accessions. The objective is to determine which strategy best meets FAO authorization levels for those AOCs with statistically different inventories.

Analysis of the strategies requires establishing a 95% confidence interval around the means of the inventories for each rank and AOC. Using the confidence intervals, the analysis includes pair-wise comparisons of each inventory level. Appendix B contains the means and confidence intervals for each strategy. The following criteria were used as a means for determining the preferred strategy.

1. Strategy meets the FAO authorization levels for each rank.
2. When below authorizations, strategy achieves the highest percentage of FAO authorizations for statistically different AOCs.
3. Strategy most efficiently achieves FAO authorization levels.

Table 5.17. Evaluation Criteria

Only those AOCs with statistically different inventory levels become involved in the evaluation process of competing strategies. If the inventory levels are not statistically different, comparisons can lead to false conclusions. In this instance, actual differences may be the result of simple random error.

The analysis lead to the early elimination of strategy two because of the statistically lower inventories at both the major and the lieutenant colonel levels and the resulting shortfalls in achieving an inventory capable of meeting FAO needs. Each of the other three strategies developed inventories capable of meeting major FAO authorizations for all AOCs. Also, the other strategies developed lieutenant colonel inventories able to fill FAO positions between the full authorization levels and the non-Alpha authorization levels. In all cases, the colonel inventory levels were not significantly different for any of the strategies. Therefore, only major and lieutenant colonel inventory differences impacted on the evaluation.

Strategy one was eliminated based on criterion two. This strategy filled only 90.8% versus 93.5% of lieutenant colonel FAO positions when compared to strategy three. It filled only 90.7% versus 94.3% of lieutenant colonel FAO positions when compared to strategy four. Strategies one and three developed different inventories in seven of the AOCs. While, strategies one and four developed different inventories in four of the AOCs.

Strategies three and four produced very similar results. In all cases the major inventories meet FAO authorizations. As a result, major inventories did not distinguish a preferable strategy. The two strategies produced similar results in the lieutenant colonel FAO inventories. Only three AOCs developed significantly different inventories. Strategy three produced significantly higher inventories in two of these AOCs, and strategy four produced a higher inventory in the other AOC. For these AOCs, strategy three filled 92.8% of lieutenant colonel positions versus 91.5% for strategy four. Because of the small differences between these strategies, criterion three impacted on the final selection.

This criterion becomes a subjective evaluation of the efficiency of the two strategies. Strategy four is considered to be more efficient than strategy three by achieving similar FAO levels with smaller inventories. Because each of these strategies fill over 90% of the lieutenant colonel authorizations, the efficiency of strategy four appears to outweigh the efficiency of strategy three resulting in its selection as the preferred strategy.

## **6. Conclusions**

The project evaluated several accessioning strategies. The first strategy attempted to "push" officers through the system to meet needs. This strategy accessed new officers into the FAO program by distributing available accessions proportionally according to the number of major authorizations for each AOC. Strategy two attempted to "pull" officers through the system to meet the needs for majors, lieutenant colonels, and colonels. This strategy accessed new officers into the FAO program by distributing available accessions proportionally according to the number of colonel authorizations for each AOC. Strategy three attempted to "push" and "pull" officers through the system to meet needs. This strategy accessed new officers by distributing available accessions proportionally according to the number of lieutenant colonel authorizations for each AOC. Strategy four attempted to recognize the impact of each rank. This strategy accessed new officers into the FAO program by distributing available accessions proportionally according to the number of colonel authorizations for each AOC.

The analysis indicated that even though these strategies were unable to built an inventory capable of meeting the needs of the FAO system at all grades in all AOCs, strategies one, three, and four did very well at filling positions for majors and lieutenant colonels. Strategy four is more capable than any of the other strategies at meeting the combined needs of efficiently filling major, lieutenant colonel, and colonel authorizations. Strategy four is the recommended accessioning strategy.

### **6.1. Insights**

The process of conducting the background research, modeling the life cycle logic, and performing the final analysis, provided useful insights into many aspects of the FAO system. Several of the most important follow in the subsequent paragraphs.

Historical results of promotion boards indicate that a single-tracking officer is not as competitive for advancement as a "broader background" dual-tracking officer. The single-tracking issue is much more limiting for FAOs. Foreign countries expect FAOs to possess practical experience in branch positions. This experience usually translates to holding battalion operations officer or executive officer positions. Officers that single-track as majors generally do not possess the qualifications expected by foreign militaries; therefore, single-tracking as a major is not a viable option. As discuss earlier, once officers fall out of the battalion or brigade command tracks, branch positions for non-commanders become



scarce. Single-tracking for these officers does not create the same situation. In fact, single-tracking could be considered as the best alternative.

The rank structures of both the Army and the FAO program are pyramid-shaped with more officers in the lower ranks and fewer in the higher ranks. The needs of the FAO program conflict with this structure. Several of the AOCs require larger numbers of qualified officers as they progress in rank. This structure leads to shortages in the higher ranks, especially for colonel positions. The nature of the FAO program creates this dilemma. Senior officers are the only officers qualified for many of the FAO positions. However, the structure of the FAO program needs to be sensitive to this situation, and whenever possible, the structure should require officers in lower ranks. Any actions to shape the requirements into a more pyramid-shaped structure will help fill positions. Presently, the FAO Proponent does not foresee the ability to adjust the rank structure of FAO authorizations. Single-tracking of senior non-commanders will help alleviate shortages.

## References

- Banks, Jerry and Carson, John S., II. Discrete-Event System Simulation. Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1984.
- Foreign Area Officer Proponent Office. Office of the Deputy Chief of Staff for Operations and Plans. Vision Briefing. 1992.
- Schwarzkopf, H. Norman. "The Foreign Area Officer Program: Investing in a Long Term Force Multiplier." Soldier-Statesman: FAO Newsletter. Volume 3, Issue 2. Spring/Summer 1991.
- United States Army. "In Search of Excellence: The Foreign Area Officer." (Film). 1990.

## Appendix A. Graphical Output

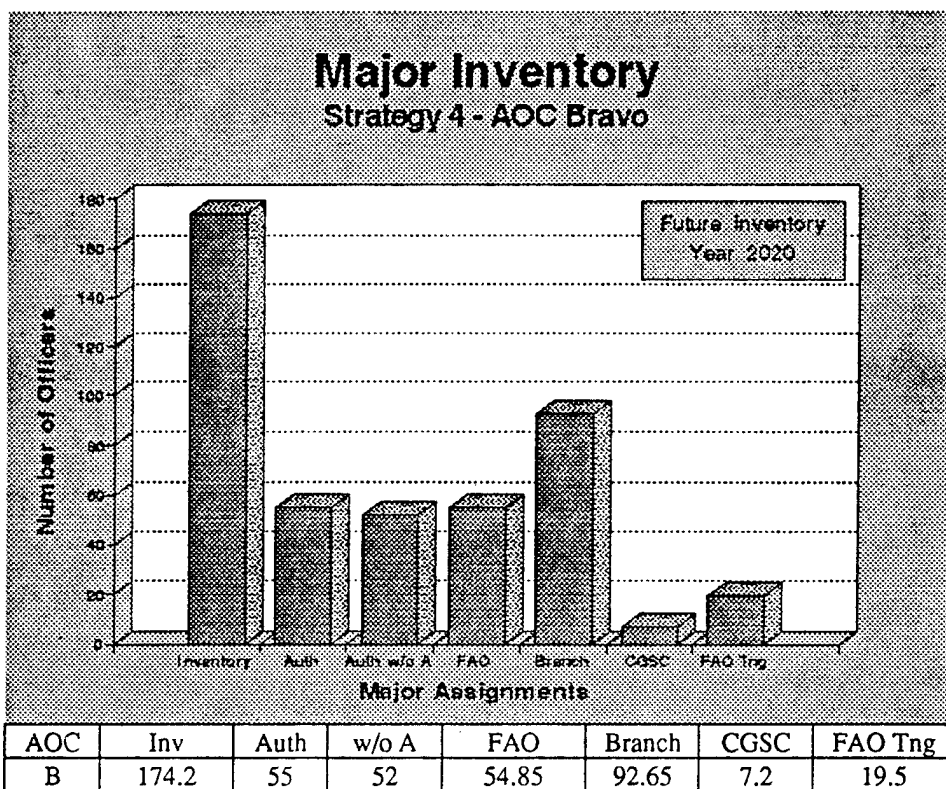
The graphs in this appendix show the inventory levels in the year 2020 for the recommended strategy, strategy four -- the "Total Authorization" strategy. The graphs show the inventory for each rank and AOC.

The column labeled **Auth** indicates the authorized number of FAO positions for that AOC plus a proportional allocation of AOC Alpha. AOC Alpha positions are AOC immaterial positions. Each AOC assumes its proportional share of these positions. The **Auth w/o A** column indicates only the respective AOC authorizations.

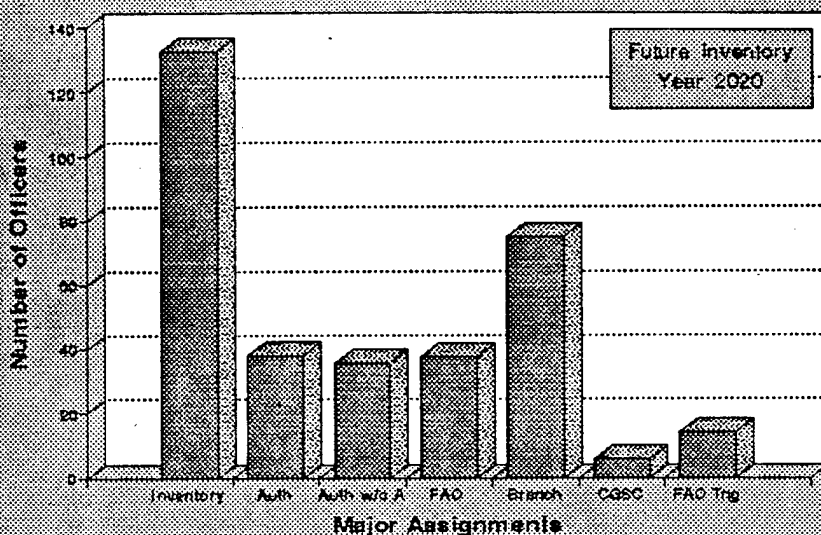
# MAJOR INVENTORIES

Summary: Strategy 4 Year 2020

AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
B	174.2	55	52	54.85	92.65	7.2	19.5
C	132.35	38	36	37.7	74.8	5.7	14.15
D	35.95	8	8	8	21.3	2.55	4.1
E	170.6	80	76	78.85	67.7	6.55	17.5
F	44.95	16	15	15.55	21.9	1.95	5.55
G	163.5	64	61	63.85	76.65	6.4	16.6
H	68.3	24	23	23.5	33.9	3.5	7.4
I	51.15	10	10	10	33.7	2.25	5.2
J	64.8	19	18	18.6	36.25	2.95	7

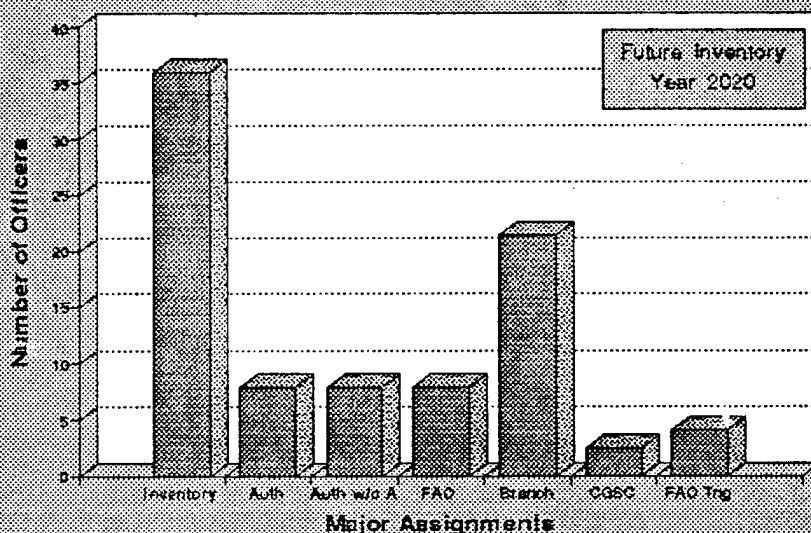


## Major Inventory Strategy 4 - AOC Charlie



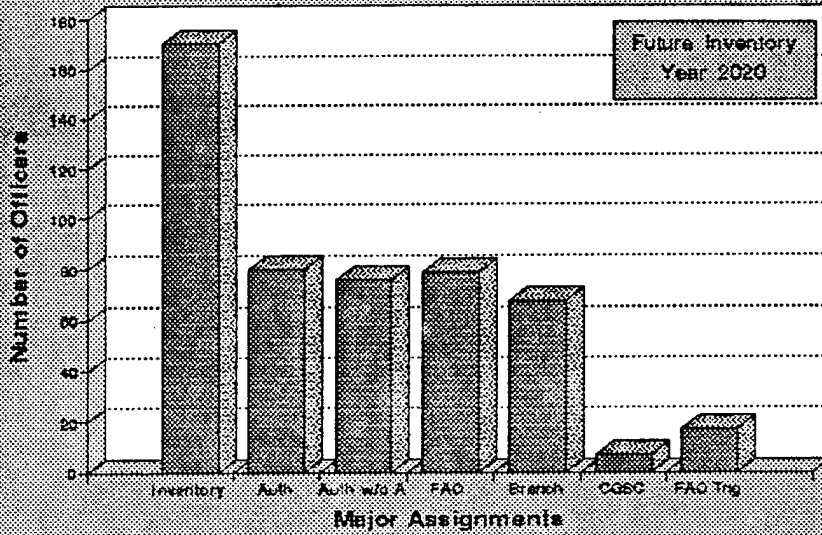
AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
C	132.35	38	36	37.7	74.8	5.7	14.15

## Major Inventory Strategy 4 - AOC Delta



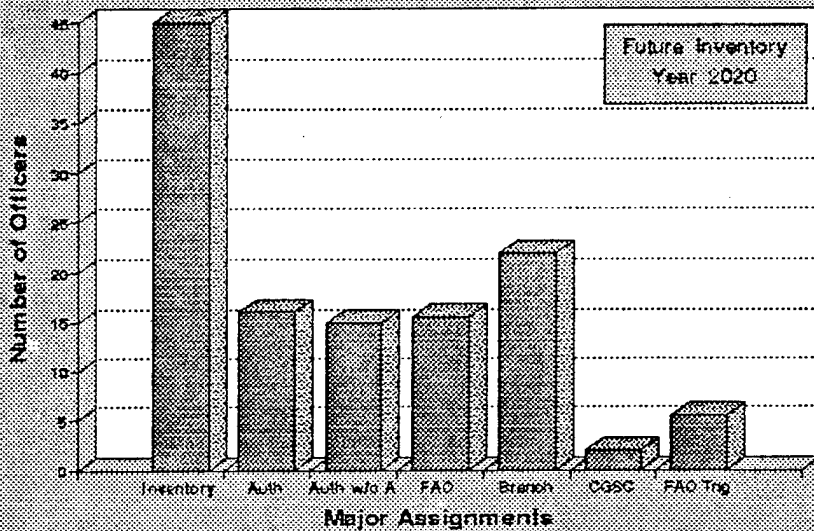
AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
D	35.95	8	8	8	21.3	2.55	4.1

## Major Inventory Strategy 4 - AOC Echo



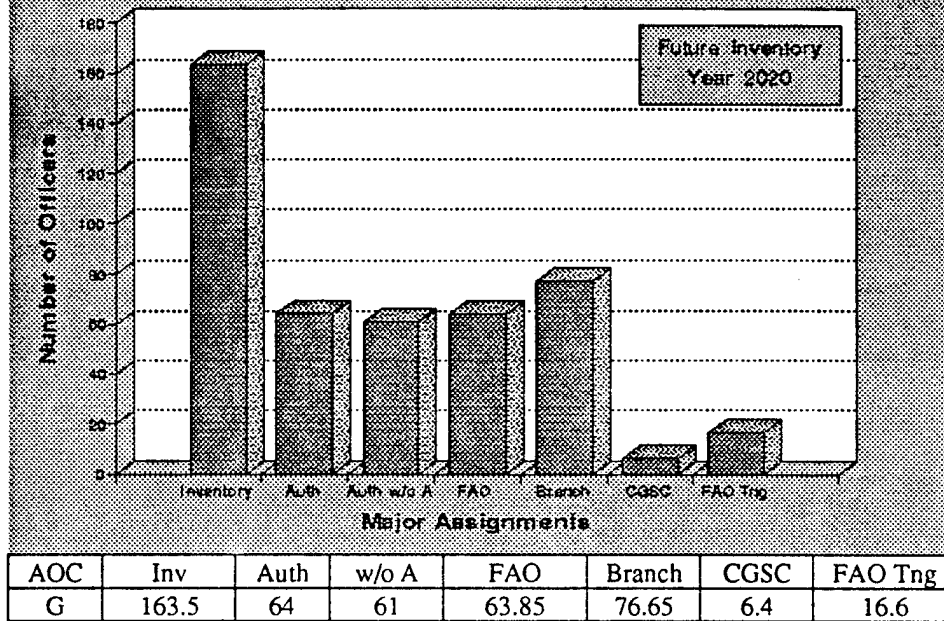
AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
E	170.6	80	76	78.85	67.7	6.55	17.5

## Major Inventory Strategy 4 - AOC Foxtrot

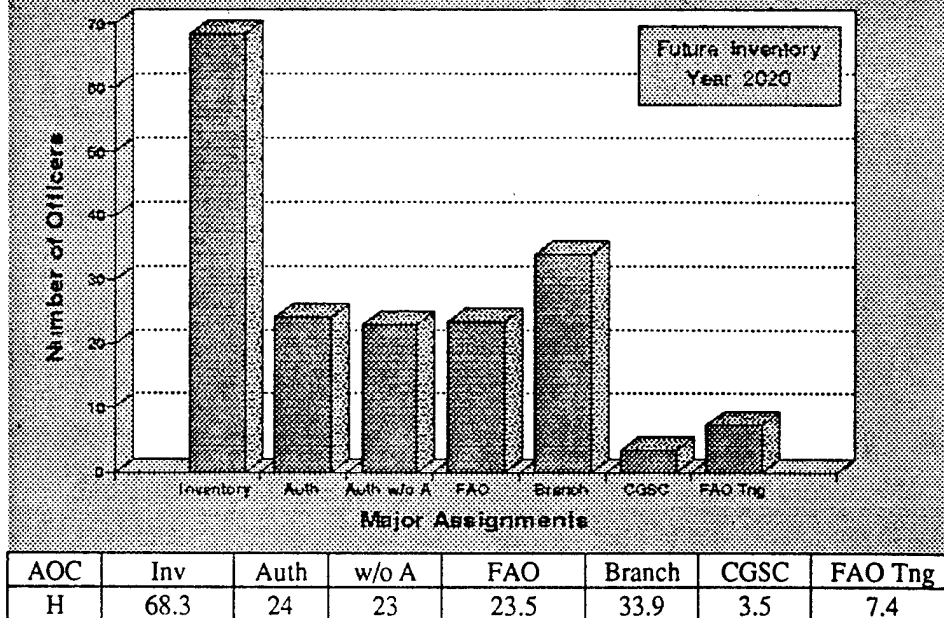


AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
F	44.95	16	15	15.55	21.9	1.95	5.55

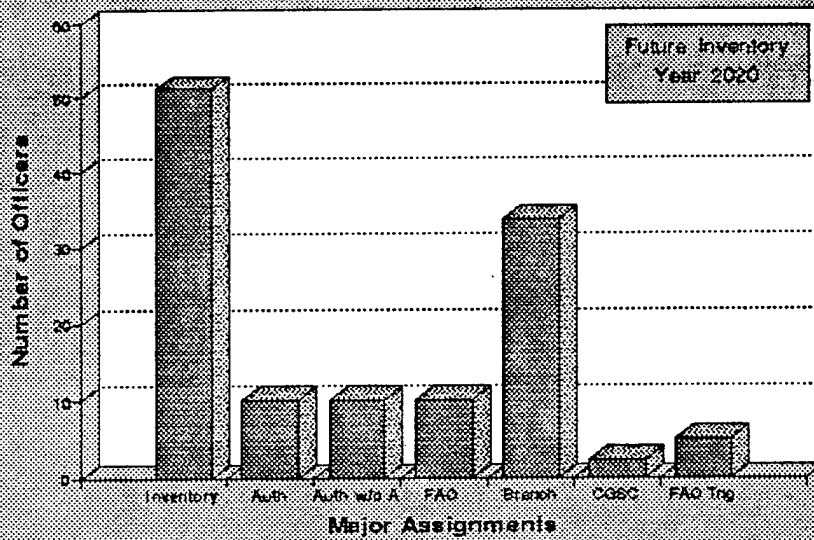
## Major Inventory Strategy 4 - AOC Goff



## Major Inventory Strategy 4 - AOC Hotel

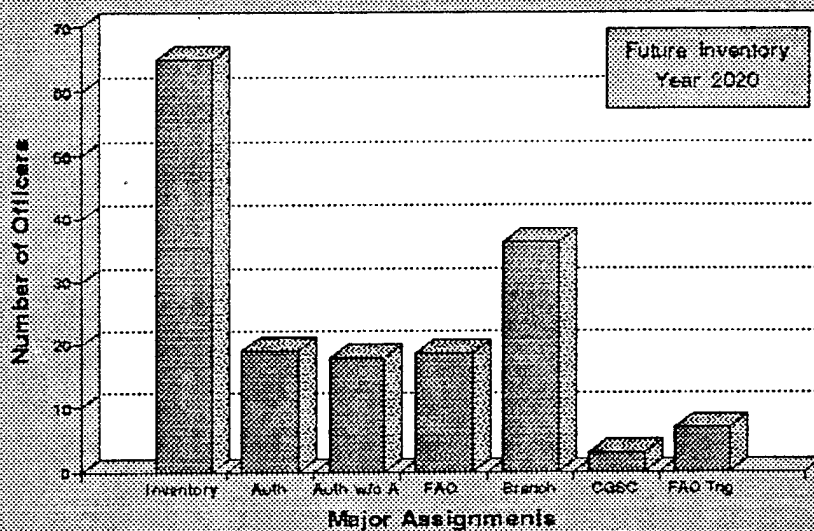


## Major Inventory Strategy 4 - AOC India



AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
I	51.15	10	10	10	33.7	2.25	5.2

## Major Inventory Strategy 4 - AOC Juliet



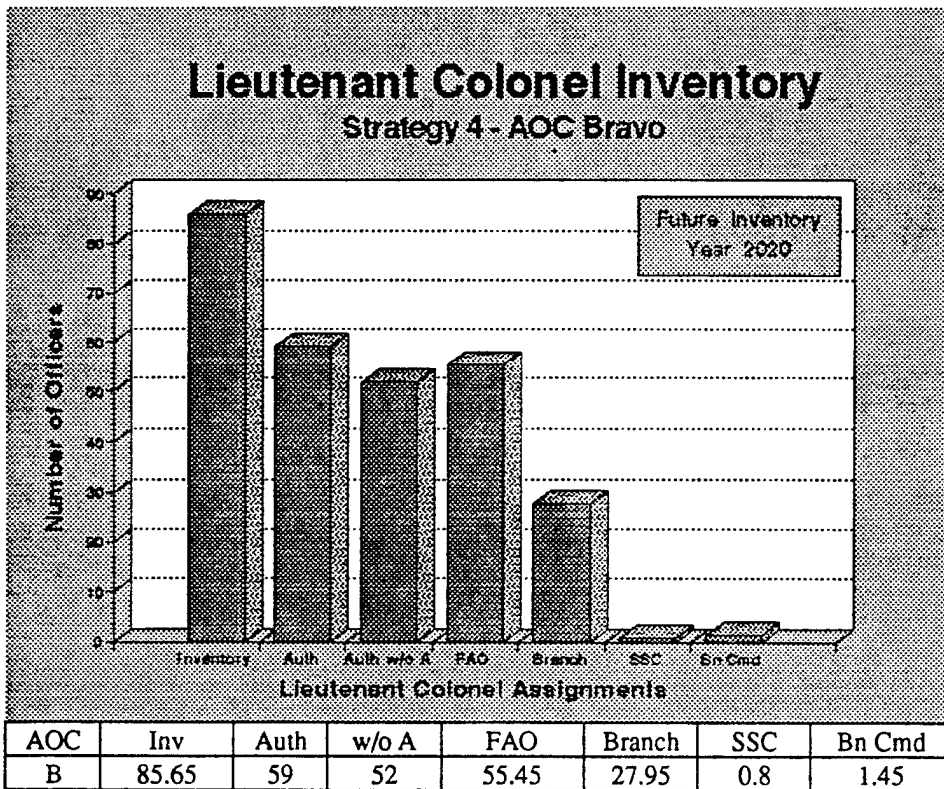
AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
J	64.8	19	18	18.6	36.25	2.95	7



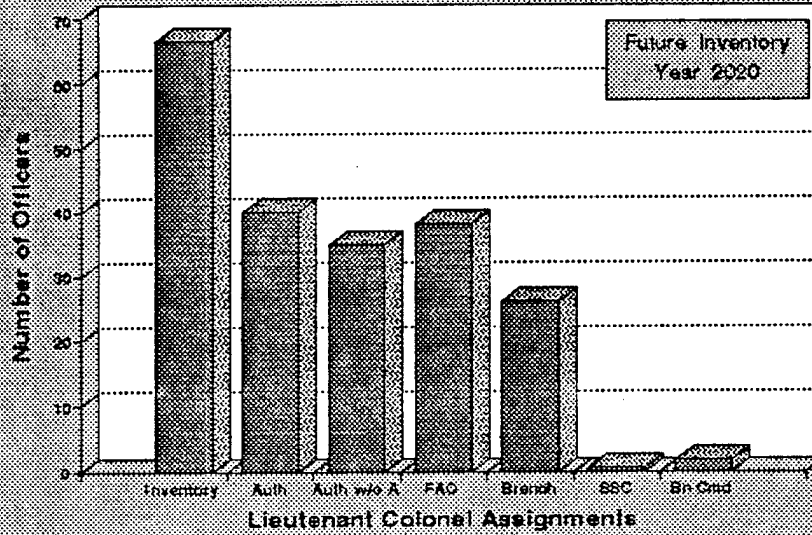
# LIEUTENANT COLONEL INVENTORIES

Summary: Strategy 4 Year 2020

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
B	85.65	59	52	55.45	27.95	0.8	1.45
C	66.55	40	35	38.15	26.05	0.65	1.7
D	18.2	11	10	9.7	7.65	0.2	0.65
E	84.65	58	51	54.65	26.65	1.1	2.25
F	23.6	11	10	10.35	12.4	0.25	0.6
G	81.75	51	45	47.65	31.7	0.7	1.7
H	32.65	27	24	23.4	8.25	0.15	0.85
I	26.05	15	13	14	10.6	0.25	1.2
J	33.9	24	21	22.3	10.65	0.45	0.5

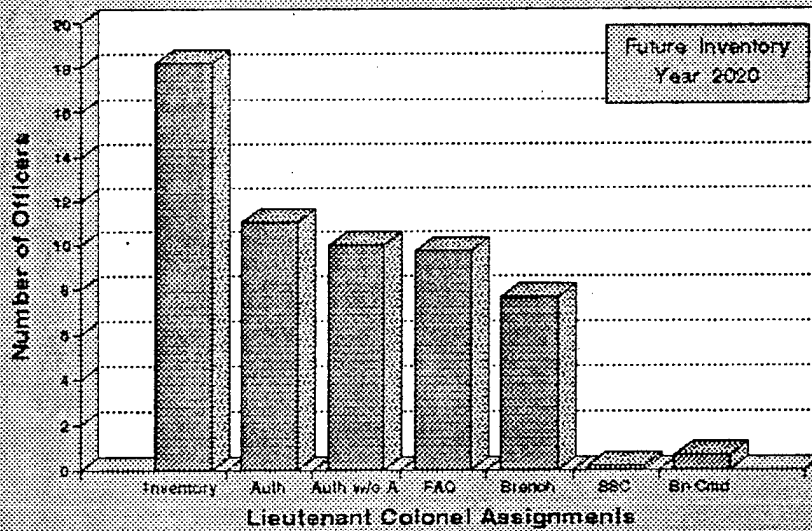


## Lieutenant Colonel Inventory Strategy 4 - AOC Charlie



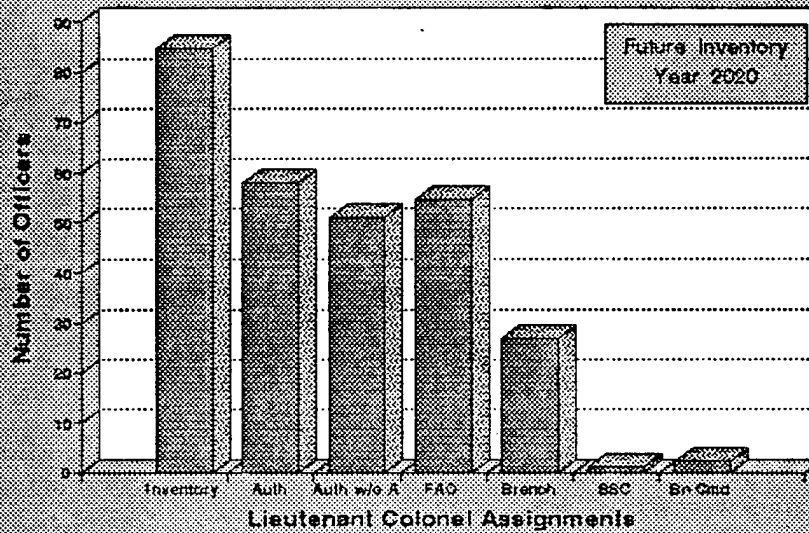
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
C	66.55	40	35	38.15	26.05	0.65	1.7

## Lieutenant Colonel Inventory Strategy 4 - AOC Delta



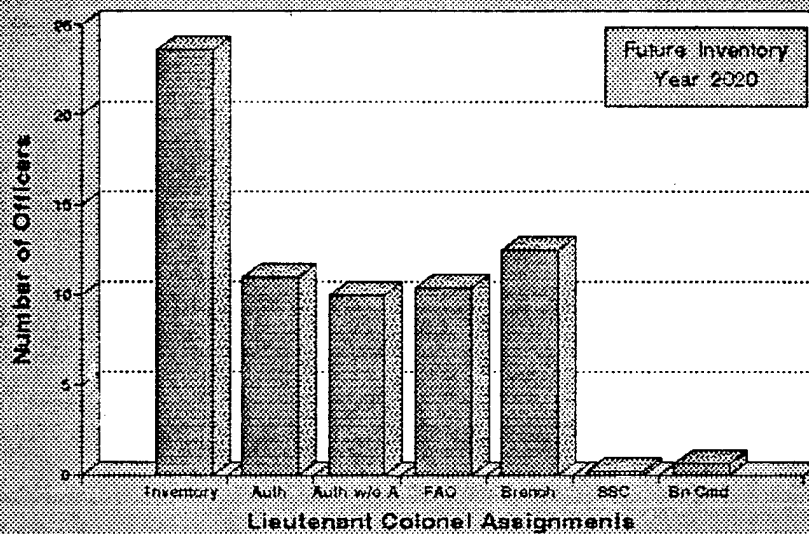
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
D	18.2	11	10	9.7	7.65	0.2	0.65

## Lieutenant Colonel Inventory Strategy 4 - AOC Echo



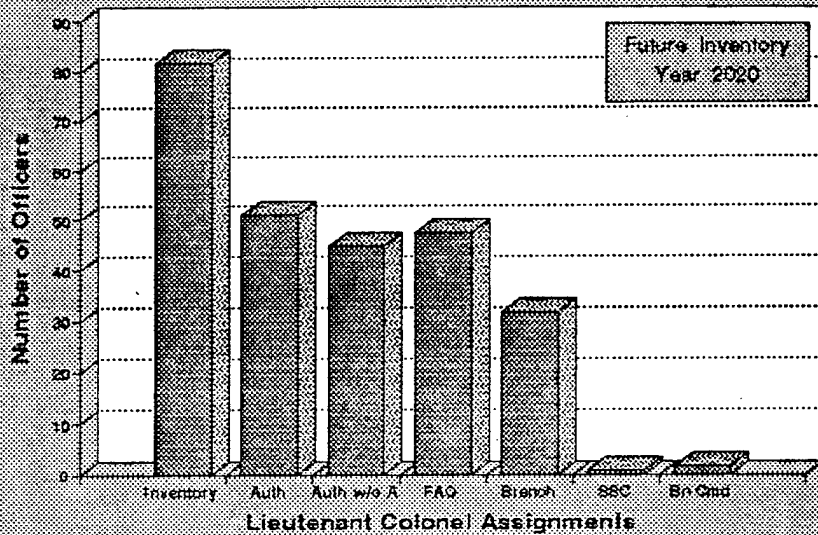
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
E	84.65	58	51	54.65	26.65	1.1	2.25

## Lieutenant Colonel Inventory Strategy 4 - AOC Foxtrot



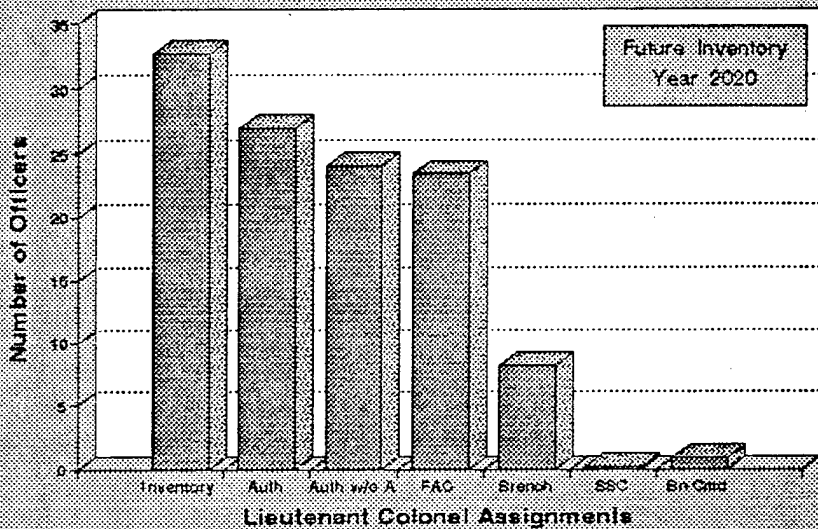
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
F	23.6	11	10	10.35	12.4	0.25	0.6

## Lieutenant Colonel Inventory Strategy 4 - AOC Golf



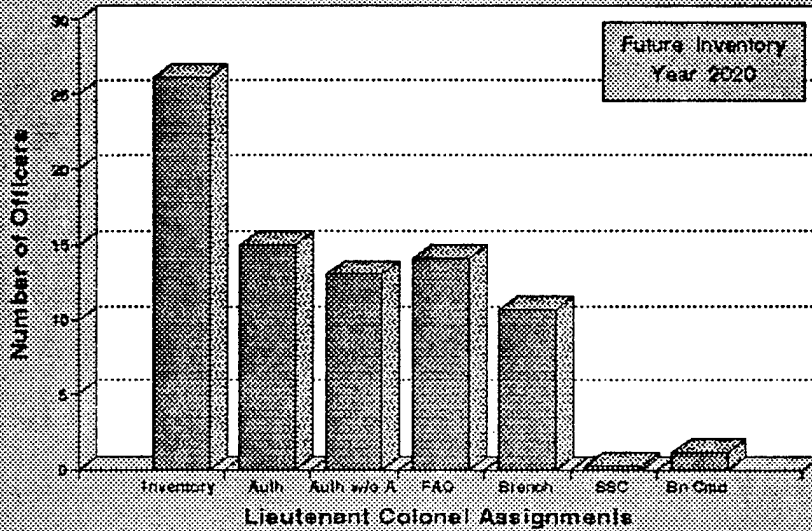
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
G	81.75	51	45	47.65	31.7	0.7	1.7

## Lieutenant Colonel Inventory Strategy 4 - AOC Hotel



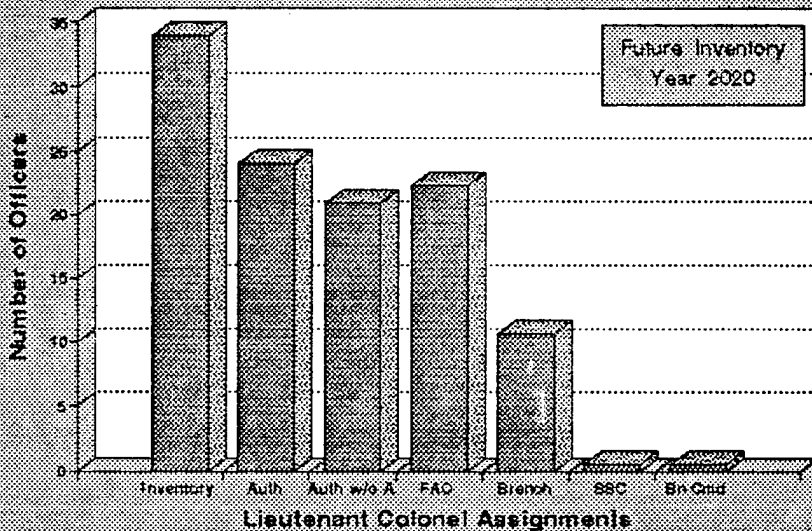
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
H	32.65	27	24	23.4	8.25	0.15	0.85

## Lieutenant Colonel Inventory Strategy 4 - AOC India



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
I	26.05	15	13	14	10.6	0.25	1.2

## Lieutenant Colonel Inventory Strategy 4 - AOC Juliet

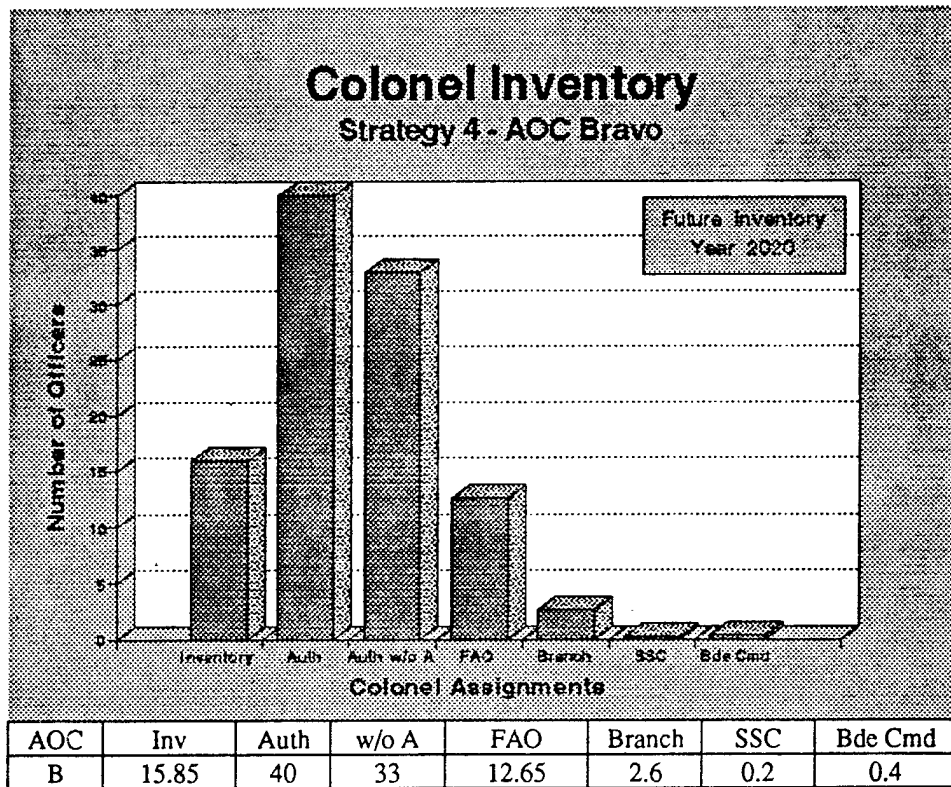


AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
J	33.9	24	21	22.3	10.65	0.45	0.5

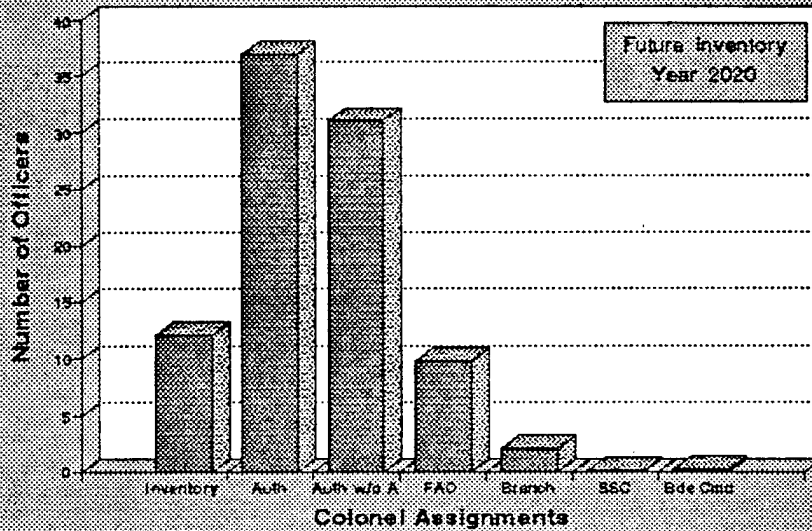
# COLONEL INVENTORIES

Summary: Strategy 4 Year 2020

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
B	15.85	40	33	12.65	2.6	0.2	0.4
C	12.05	37	31	9.75	2.05	0.05	0.2
D	3.35	2	2	1.45	1.85	0	0.05
E	16.3	26	22	13.4	2.35	0.05	0.5
F	3.8	4	3	2.7	1	0	0.1
G	14.5	33	27	11.4	2.75	0.05	0.3
H	5.95	5	4	3.55	2.05	0	0.35
I	4.3	11	9	3.7	0.5	0.05	0.05
J	6.2	10	8	4.9	1.15	0	0.15

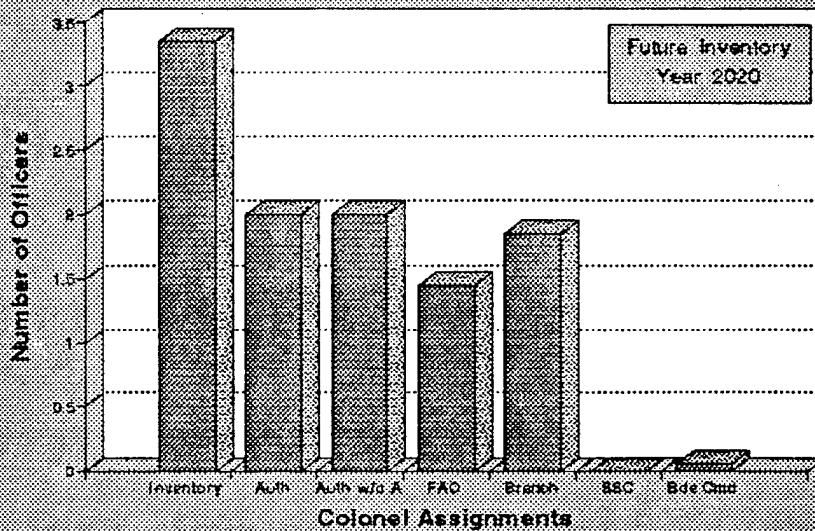


## Colonel Inventory Strategy 4 - AOC Charlie



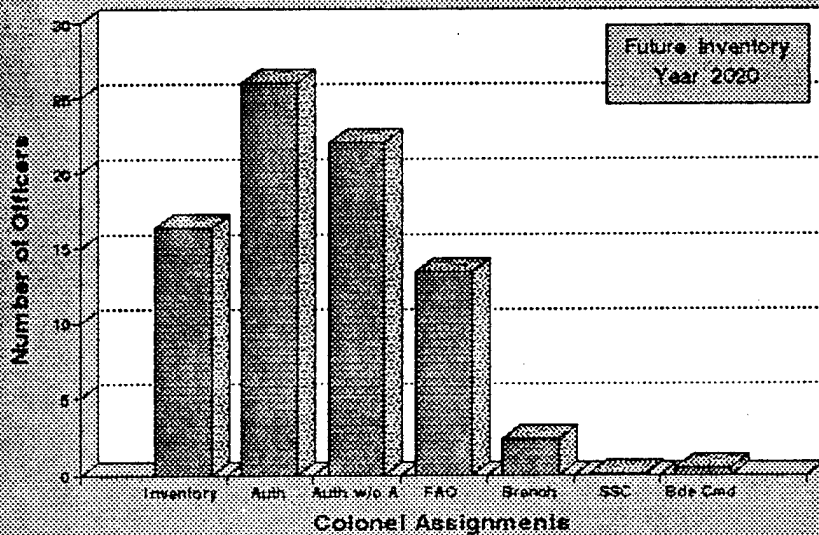
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
C	12.05	37	31	9.75	2.05	0.05	0.2

## Colonel Inventory Strategy 4 - AOC Delta



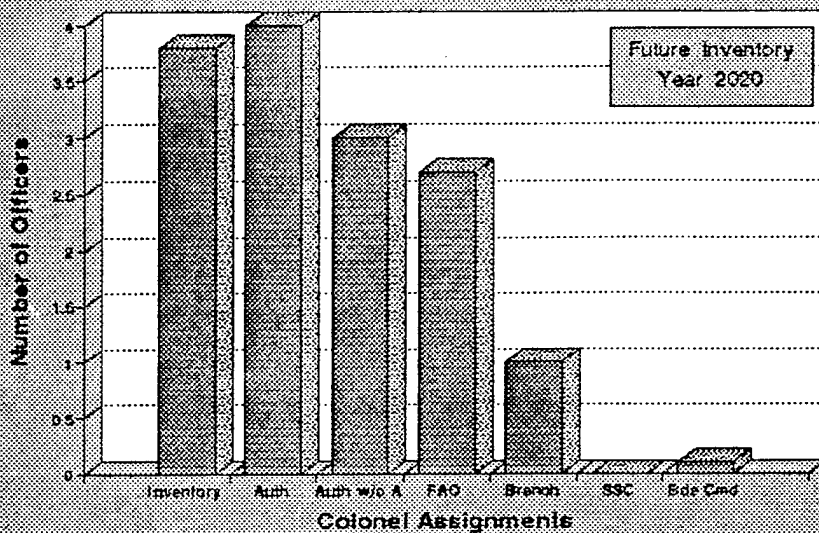
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
D	3.35	2	2	1.45	1.85	0	0.05

## Colonel Inventory Strategy 4 - AOC Echo



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
E	16.3	26	22	13.4	2.35	0.05	0.5

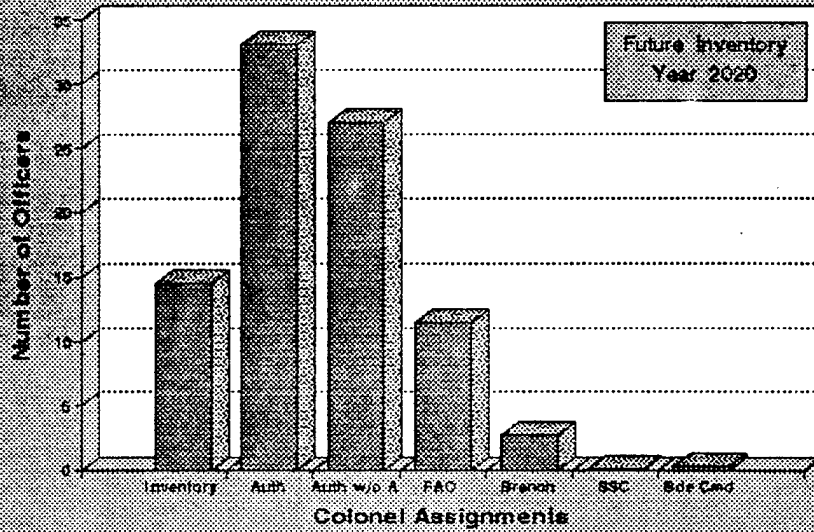
## Colonel Inventory Strategy 4 - AOC Foxtrot



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
F	3.8	4	3	2.7	1	0	0.1

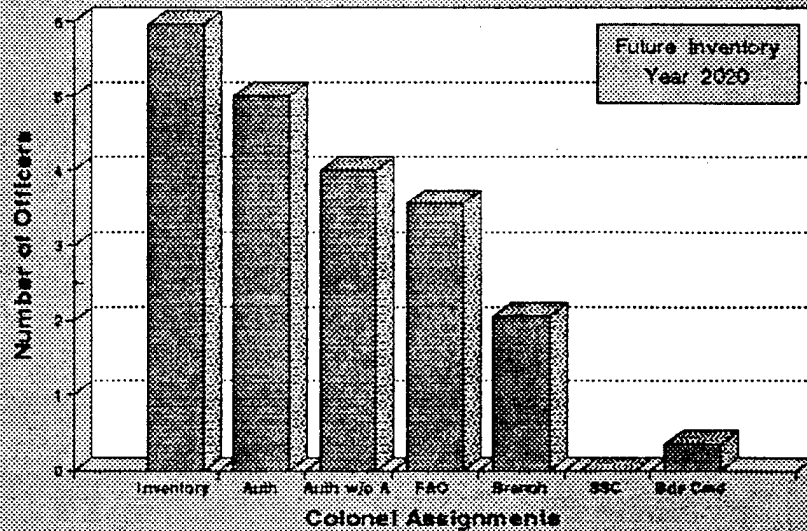


## Colonel Inventory Strategy 4 - AOC Golf



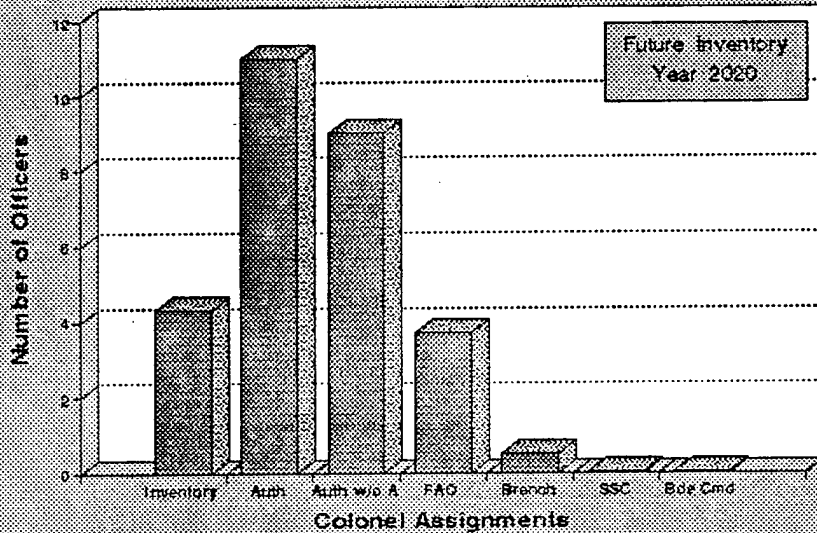
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
G	14.5	33	27	11.4	2.75	0.05	0.3

## Colonel Inventory Strategy 4 - AOC Hotel



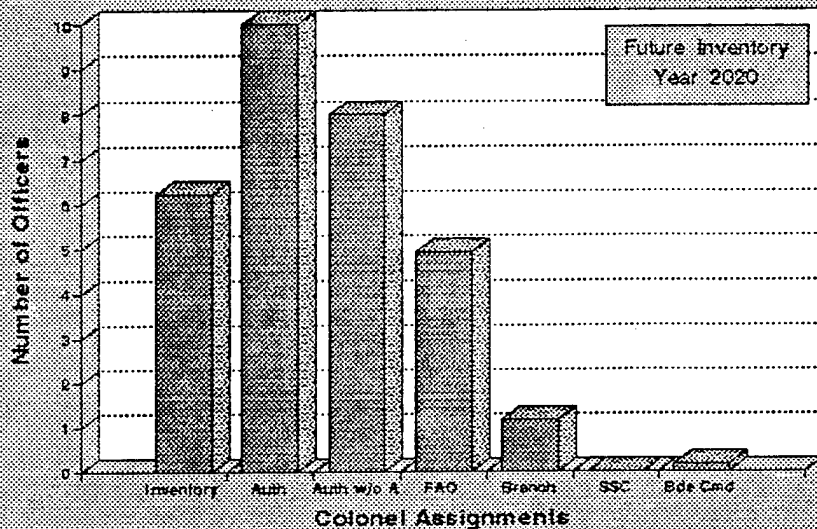
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
H	5.95	5	4	3.55	2.05	0	0.35

## Colonel Inventory Strategy 4 - AOC India



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
I	4.3	11	9	3.7	0.5	0.05	0.05

## Colonel Inventory Strategy 4 - AOC Juliet



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
J	6.2	10	8	4.9	1.15	0	0.15

## Appendix B. Output Analysis

The table below lists the mean inventories of majors for each AOC and strategy. The lower and upper points of the confidence intervals are listed under the Low and High columns. These interval estimates follow the procedures outlined in Discrete-Event System Simulation by Banks and Carson.

Majors					
AOC	Strategy	Low	Mean	High	Std Dev
B	1	151.86	155.50	159.14	7.7900
	2	202.69	207.80	212.91	10.9381
	3	169.72	174.00	178.28	9.1594
	4	170.82	174.20	177.58	7.2301
C	1	105.73	109.30	112.87	7.6303
	2	184.36	188.05	191.74	7.8972
	3	125.39	128.15	130.91	5.8963
	4	129.18	132.35	135.52	6.7845
D	1	32.04	33.65	35.26	3.4531
	2	19.36	21.65	23.94	4.9019
	3	38.00	40.25	42.50	4.8218
	4	34.17	35.95	37.73	3.8041
E	1	207.64	211.85	216.06	9.0162
	2	119.58	123.20	126.82	7.7500
	3	159.03	164.00	168.97	10.6376
	4	166.95	170.60	174.25	7.8163
F	1	47.77	49.65	51.53	4.0167
	2	27.37	29.45	31.53	4.4423
	3	41.20	44.05	46.90	6.0998
	4	42.54	44.95	47.36	5.1552
G	1	166.89	170.75	174.61	8.2582
	2	162.71	166.00	169.29	7.0338
	3	143.92	147.35	150.78	7.3361
	4	159.27	163.50	167.73	9.0525
H	1	69.19	71.80	74.41	5.5782
	2	34.58	36.80	39.02	4.7528
	3	80.48	82.60	84.72	4.5352
	4	65.32	68.30	71.28	6.3834
I	1	38.86	40.95	43.04	4.4777
	2	59.04	61.25	63.46	4.7337
	3	48.23	50.10	51.97	4.0118
	4	48.59	51.15	53.71	5.4703
J	1	58.20	61.15	64.10	6.3018
	2	59.43	61.80	64.17	5.0742
	3	73.42	75.95	78.48	5.4142
	4	61.74	64.80	67.86	6.5502


The table below lists the mean inventories of lieutenant colonels for each AOC and strategy. The lower and upper points of the confidence intervals are listed under the Low and High columns. These interval estimates follow the procedures outlined in Discrete-Event System Simulation by Banks and Carson.

Lieutenant Colonels					
AOC	Strategy	Low	Mean	High	Std Dev
B	1	73.02	76.55	80.08	7.5497
	2	100.75	104.65	108.55	8.3494
	3	81.33	85.70	90.07	9.3420
	4	81.39	85.65	89.91	9.1091
C	1	53.51	56.60	59.69	6.6046
	2	89.43	93.45	97.47	8.6113
	3	63.17	65.80	68.43	5.6345
	4	64.36	66.55	68.74	4.6957
D	1	16.81	19.00	21.19	4.6792
	2	11.16	12.45	13.74	2.7621
	3	18.70	20.60	22.50	4.0575
	4	16.30	18.20	20.10	4.0601
E	1	100.85	103.90	106.95	6.5365
	2	62.27	64.20	66.13	4.1371
	3	76.68	80.40	84.12	7.9631
	4	81.55	84.65	87.75	6.6354
F	1	23.40	26.00	28.60	5.5630
	2	14.73	16.15	17.57	3.0310
	3	21.52	23.75	25.98	4.7780
	4	21.75	23.60	25.45	3.9656
G	1	81.75	85.45	89.15	7.9238
	2	77.23	81.95	86.67	10.1020
	3	67.58	71.20	74.82	7.7364
	4	78.88	81.75	84.62	6.1377
H	1	32.99	35.65	38.31	5.6872
	2	16.42	18.70	20.98	4.8785
	3	39.74	42.55	45.36	6.0042
	4	30.34	32.65	34.96	4.9447
I	1	18.43	20.15	21.87	3.6889
	2	27.91	30.10	32.29	4.6781
	3	25.33	27.85	30.37	5.4025
	4	23.52	26.05	28.58	5.4044
J	1	29.05	31.65	34.25	5.5562
	2	29.11	31.45	33.79	5.0103
	3	37.65	39.45	41.25	3.8590
	4	32.24	33.90	35.56	3.5526

The table below lists the mean inventories of colonels for each AOC and strategy. The lower and upper points of the confidence intervals are listed under the Low and High columns. These interval estimates follow the procedures outlined in Discrete-Event System Simulation by Banks and Carson.

AOC	Strategy	Colonels			
		Low	Mean	High	Std Dev
B	1	12.15	14.45	16.75	4.9255
	2	16.98	18.95	20.92	4.2237
	3	15.19	16.65	18.11	3.1166
	4	14.29	15.85	17.41	3.3289
C	1	8.30	9.90	11.50	3.4320
	2	13.76	15.85	17.94	4.4754
	3	9.13	11.10	13.07	4.2165
	4	10.64	12.05	13.46	3.0171
D	1	1.77	2.55	3.33	1.6694
	2	1.11	1.90	2.69	1.6827
	3	2.33	2.95	3.57	1.3169
	4	2.45	3.35	4.25	1.9270
E	1	16.86	19.05	21.24	4.6845
	2	10.11	11.45	12.79	2.8741
	3	12.41	14.20	15.99	3.8196
	4	15.22	16.30	17.38	2.3193
F	1	3.98	5.15	6.32	2.4979
	2	2.93	3.60	4.27	1.4290
	3	3.21	3.75	4.29	1.1642
	4	2.87	3.80	4.73	1.9894
G	1	14.14	15.70	17.26	3.3419
	2	15.12	16.75	18.38	3.4774
	3	11.40	13.10	14.80	3.6404
	4	13.25	14.50	15.75	2.6852
H	1	5.08	6.20	7.32	2.3974
	2	3.39	4.25	5.11	1.8317
	3	6.65	7.75	8.85	2.3592
	4	4.81	5.95	7.09	2.4382
I	1	3.68	4.50	5.32	1.7622
	2	3.40	4.75	6.10	2.8814
	3	3.88	4.75	5.62	1.8602
	4	3.59	4.30	5.01	1.5252
J	1	6.14	7.50	8.86	2.9110
	2	5.71	6.85	7.99	2.4339
	3	5.14	7.00	8.86	3.9736
	4	5.02	6.20	7.38	2.5257

## Appendix C. Briefing Slides



Operations Research Center  
United States Military Academy  
West Point, New York 10996

### FAO Life Cycle Model

Sponsor: Foreign Area Officer Proponent Office  
Office of the Deputy Chief of Staff for Operations


Analyst: CPT Peter N. Courtois  
Operations Research Center  
United States Military Academy

### A Valuable Asset

"It was our great fortune to have on hand a team of officers who have devoted themselves to the Middle East region... Without them, my job would have been considerably more difficult."

GEN H. Norman Schwarzkopf

Now, in light of significant changes in the world order, what are the new requirements for FAOs?




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### FAO Analysis Tasking

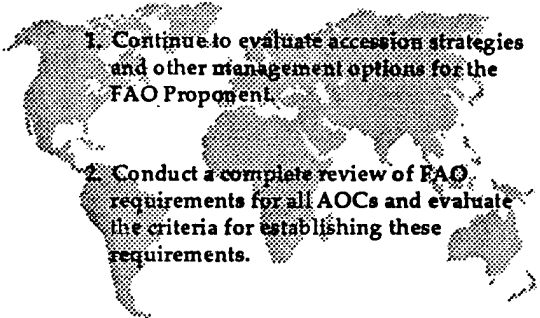
" - I read thoroughly (FAO Newsletter)  
- 'Down the road' ... have the FAO Proponent Chief AO come in and discuss the 'health/status' ... directions to support the evolving strategy. BIG responsibility for FAOs in years ahead... ; they are key to stability."

LTG Peay, DCSOPS



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## FY 92 Objectives

- 
1. Continue to evaluate accession strategies and other management options for the FAO Proponent.
  2. Conduct a complete review of FAO requirements for all AOCs and evaluate the criteria for establishing these requirements.



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## Recommended Strategy

Distribute accessions across the AOCs based on the total number of authorizations.

AOC	# of Accessions
B	29
C	21
D	4
E	30
F	6
G	28
H	10
I	7
J	10
	145



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## FAO Authorizations

		FY91	FY92	FY93	FY94	FY95	FY96
	MAJ	19	19	15	15	15	15
A	LTC	41	43	36	36	35	35
	COL	30	31	31	31	29	29

Note: AOC Alpha requirements are distributed proportionally throughout all other AOCs.



Operations Research Center

### FAO Authorizations

		FY91	FY92	FY93	FY94	FY95	FY96
B	MAJ	61	64	56	56	55	55
	LTC	67	64	62	63	59	59
	COL	40	39	40	40	40	40
C		FY91	FY92	FY93	FY94	FY95	FY96
	MAJ	54	49	45	39	38	38
	LTC	54	53	44	41	40	40
	COL	40	40	38	38	37	37
D		FY91	FY92	FY93	FY94	FY95	FY96
	MAJ	8	8	8	8	8	8
	LTC	12	12	11	11	11	11
	COL	2	2	2	2	2	2



Operations Research Center

### FAO Authorizations

		FY91	FY92	FY93	FY94	FY95	FY96
E	MAJ	93	94	84	82	80	80
	LTC	79	77	65	61	58	58
	COL	30	29	29	29	26	26
F		FY91	FY92	FY93	FY94	FY95	FY96
	MAJ	17	17	16	16	16	16
	LTC	8	7	11	11	11	11
	COL	4	4	4	4	4	4
G		FY91	FY92	FY93	FY94	FY95	FY96
	MAJ	69	67	65	64	64	64
	LTC	53	57	53	52	51	51
	COL	31	33	33	33	33	33



Operations Research Center

### FAO Authorizations

		FY91	FY92	FY93	FY94	FY95	FY96
H	MAJ	24	27	24	24	24	24
	LTC	30	29	28	28	27	27
	COL	5	5	5	5	5	5
I		FY91	FY92	FY93	FY94	FY95	FY96
	MAJ	10	12	10	10	10	10
	LTC	15	14	15	15	15	15
	COL	11	11	11	11	11	11
J		FY91	FY92	FY93	FY94	FY95	FY96
	MAJ	18	18	19	19	19	19
	LTC	27	27	27	24	24	24
	COL	10	10	10	10	10	10



Operations Research Center



## Appendix D. Simulation Code

The Operations Research Center, USMA maintains the SLAM II simulation code of the FAO Life Cycle Model. Questions concerning the simulation code should be directed to:

Director  
Operations Research Center  
Department of Systems Engineering  
United States Military Academy  
West Point, New York 10996

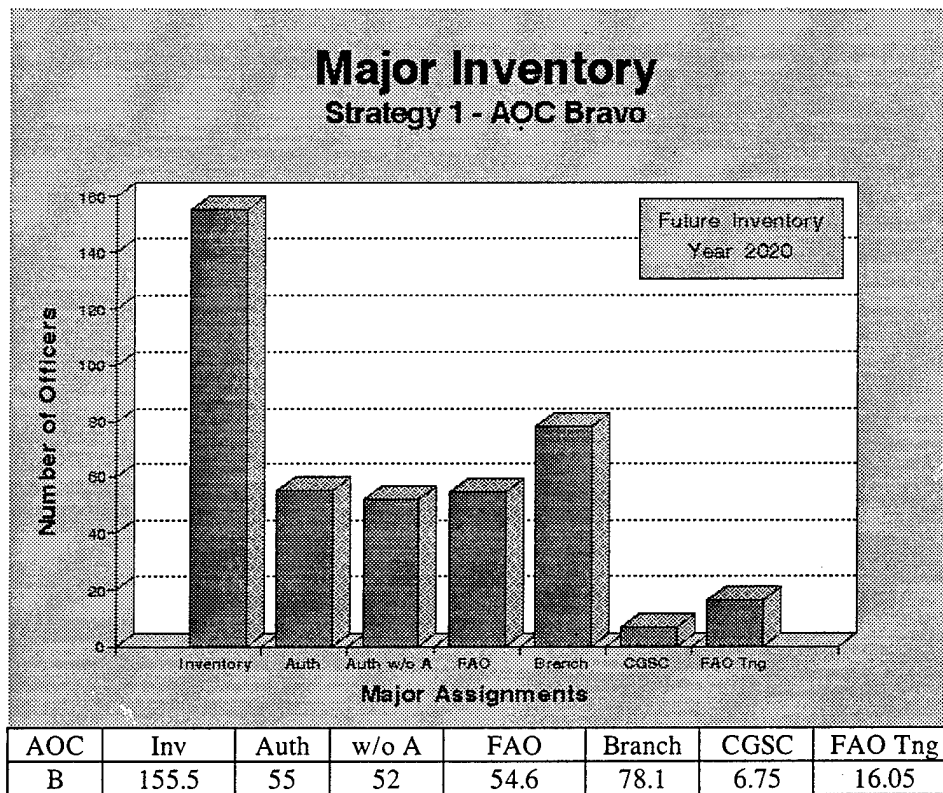
## Appendix E. Distribution

<u>Agency</u>	<u>Copies</u>
1. Foreign Area Officer Proponent Office, Office of the Deputy Chief of Staff for Operations and Plans. (DAMO-SSF)	4

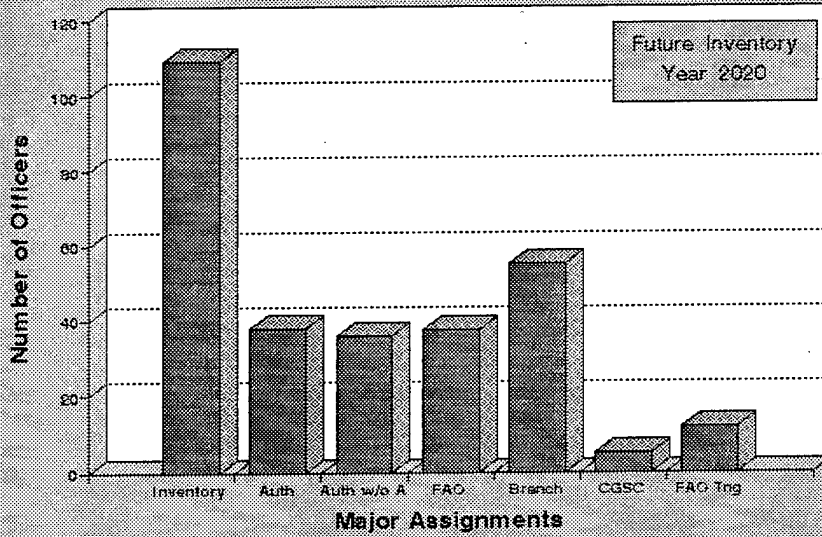
## MAJOR INVENTORIES

Summary: Strategy 1 Year 2020

AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
B	155.5	55	52	54.6	78.1	6.75	16.05
C	109.3	38	36	37.4	55.05	4.9	11.95
D	33.65	8	8	7.85	19.95	1.6	4.25
E	211.85	80	76	79.5	101	9.85	21.5
F	49.65	16	15	15.95	24.75	2.55	6.4
G	170.75	64	61	63.4	82.05	8.1	17.2
H	71.8	24	23	23.5	36.85	2.9	8.55
I	40.95	10	10	9.95	24.4	1.75	4.85
J	61.15	19	18	18.8	31.8	2.45	8.1

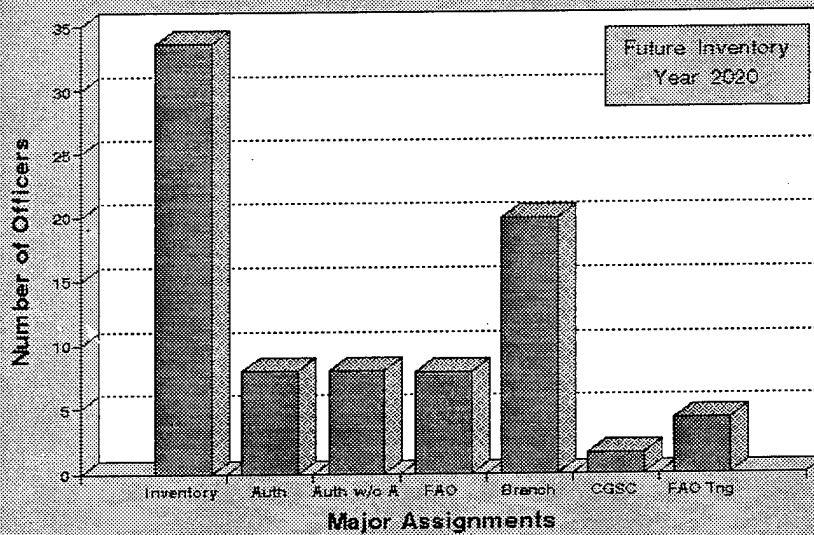


## Major Inventory Strategy 1 - AOC Charlie



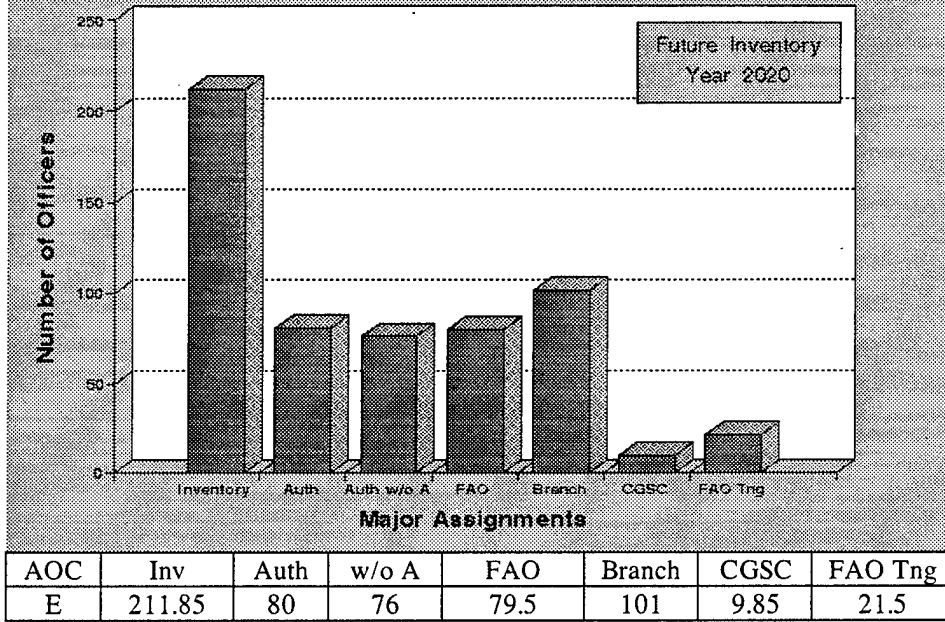
AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
C	109.3	38	36	37.4	55.05	4.9	11.95

## Major Inventory Strategy 1 - AOC Delta

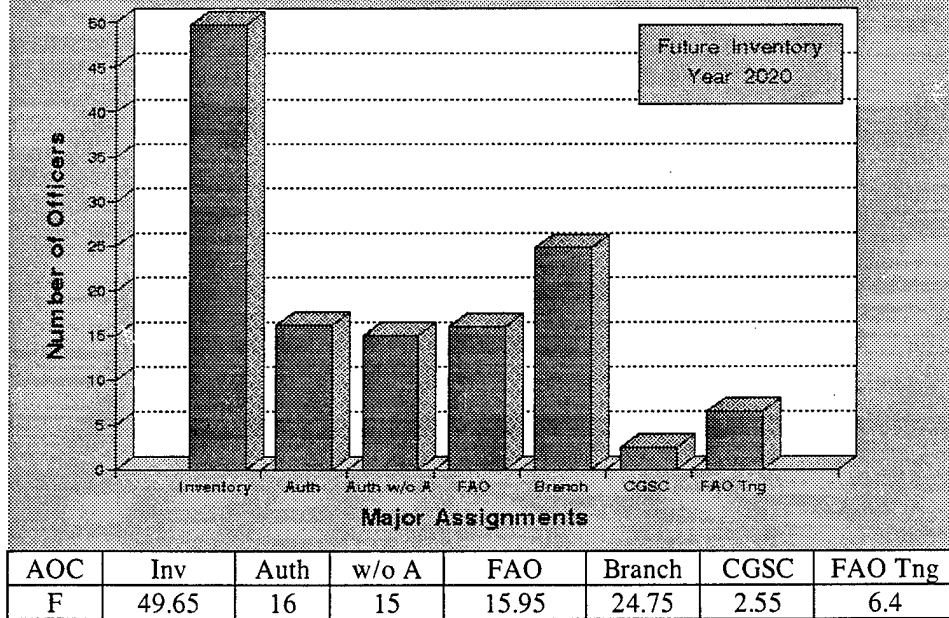


AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
D	33.65	8	8	7.85	19.95	1.6	4.25

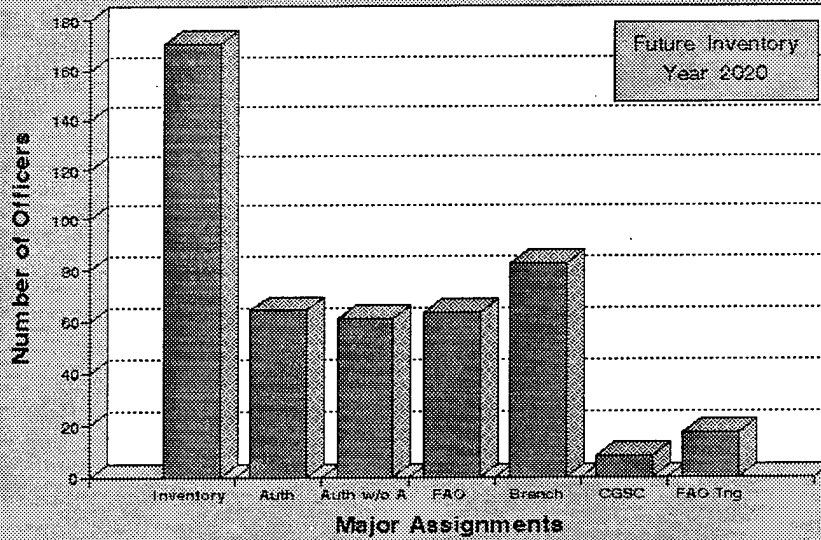
## Major Inventory Strategy 1 - AOC Echo



## Major Inventory Strategy 1 - AOC Foxtrot

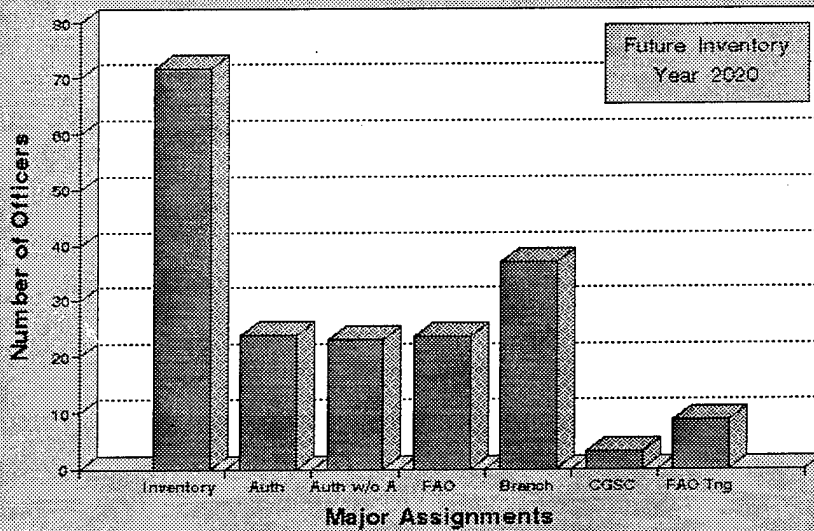


## Major Inventory Strategy 1 - AOC Golf



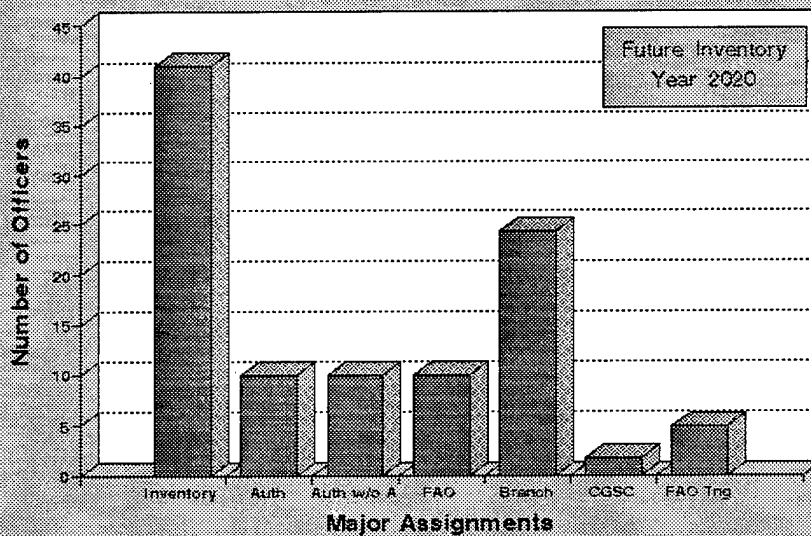
AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
G	170.75	64	61	63.4	82.05	8.1	17.2

## Major Inventory Strategy 1 - AOC Hotel



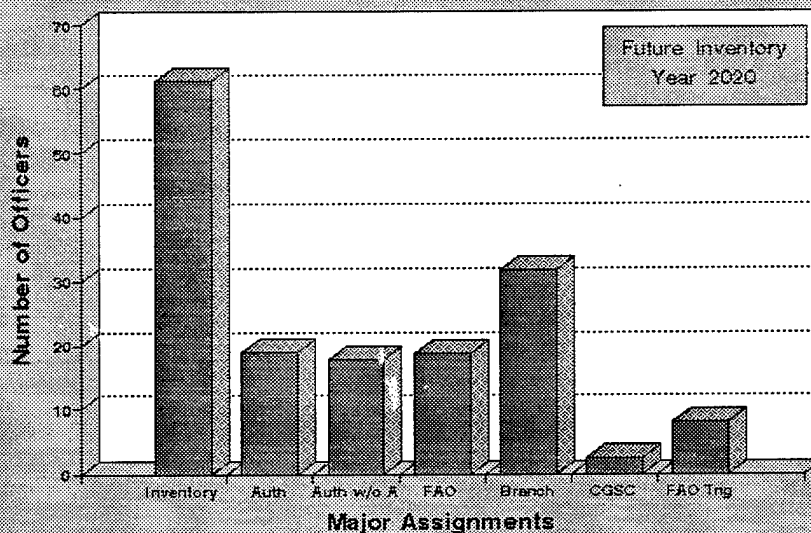
AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
H	71.8	24	23	23.5	36.85	2.9	8.55

## Major Inventory Strategy 1 - AOC India



AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
I	40.95	10	10	9.95	24.4	1.75	4.85

## Major Inventory Strategy 1 - AOC Juliet

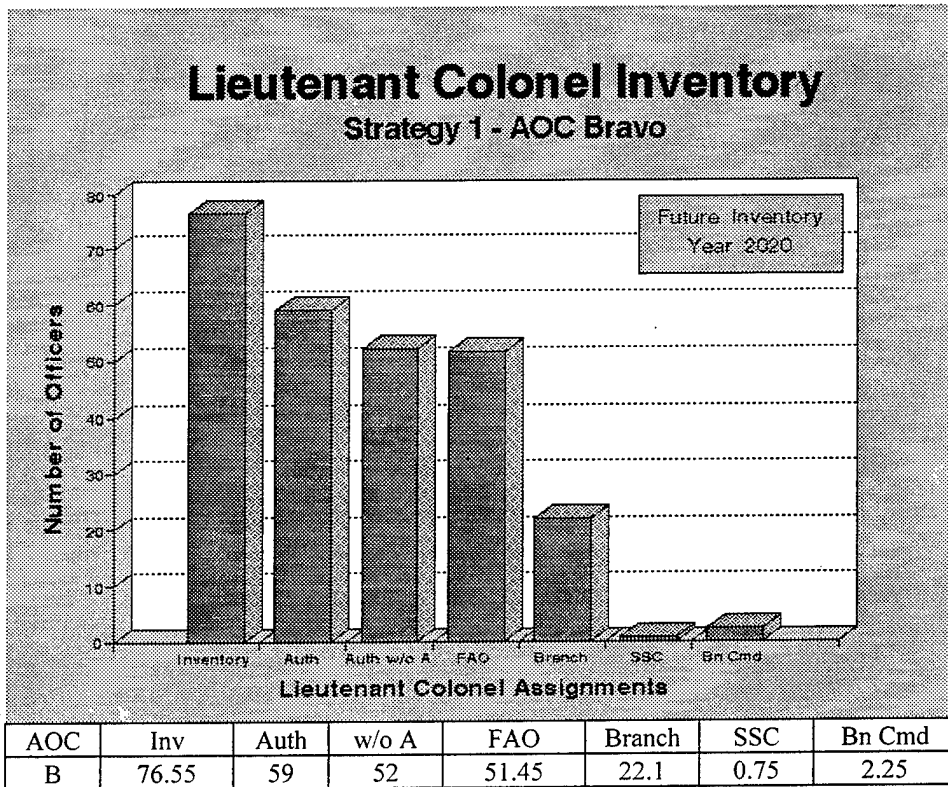


AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
J	61.15	19	18	18.8	31.8	2.45	8.1

# LIEUTENANT COLONEL INVENTORIES

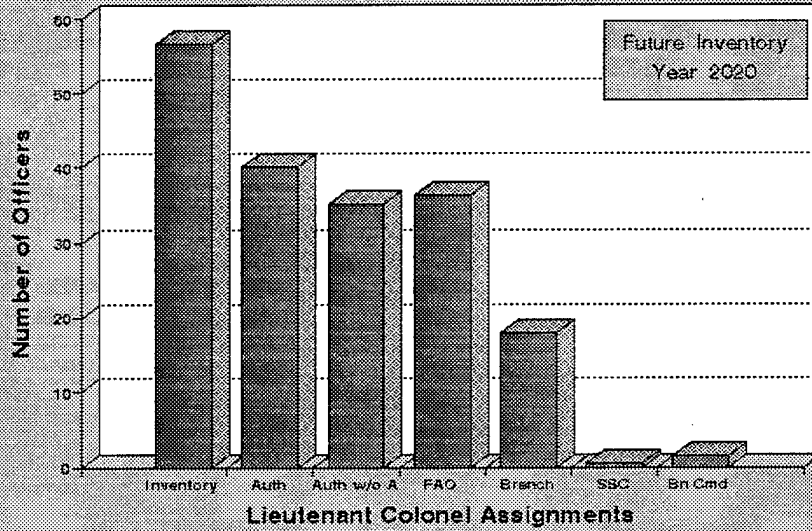
Summary: Strategy 1 Year 2020

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
B	76.55	59	52	51.45	22.1	0.75	2.25
C	56.6	40	35	36.35	18	0.6	1.65
D	19	11	10	9.65	8.1	0.4	0.85
E	103.9	58	51	55.4	44.35	1.1	3.05
F	26	11	10	10.15	14.7	0.35	0.8
G	85.45	51	45	48.25	34.1	0.75	2.35
H	35.65	27	24	23.65	10.95	0.3	0.75
I	20.15	15	13	12.85	6.35	0.15	0.8
J	31.65	24	21	20.9	9.6	0.3	0.85



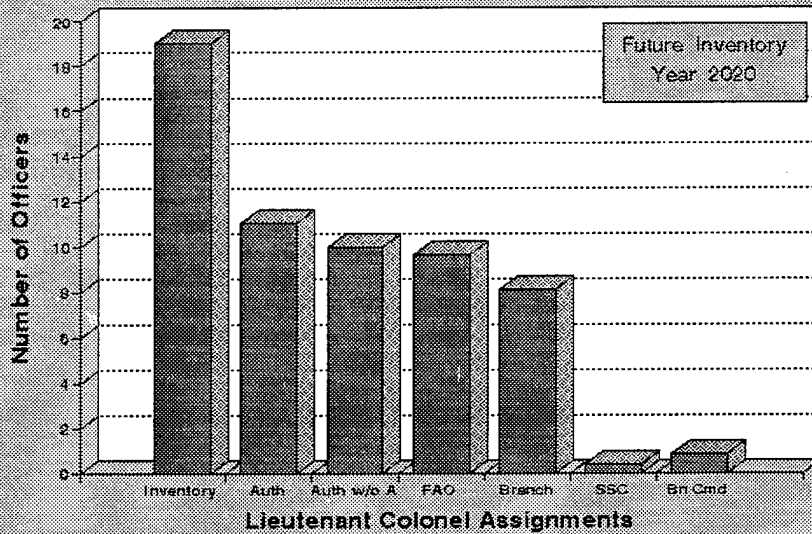


## Lieutenant Colonel Inventory Strategy 1 - AOC Charlie



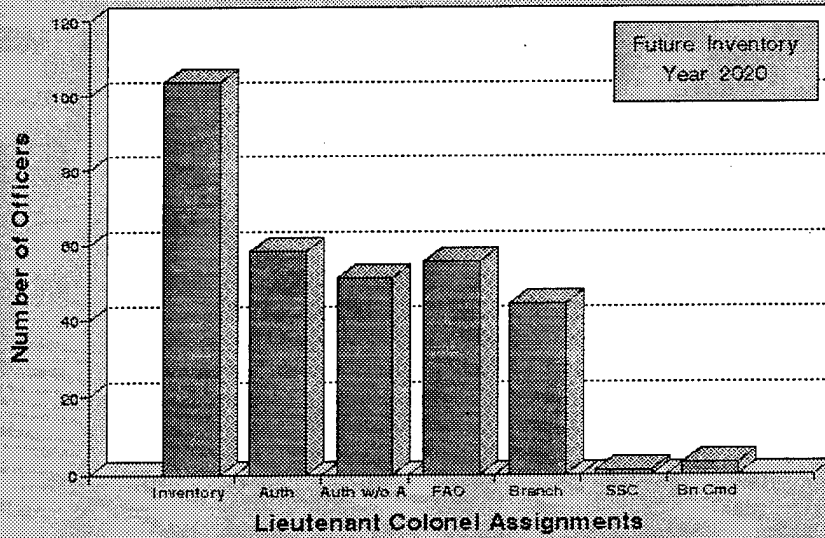
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
C	56.6	40	35	36.35	18	0.6	1.65

## Lieutenant Colonel Inventory Strategy 1 - AOC Delta



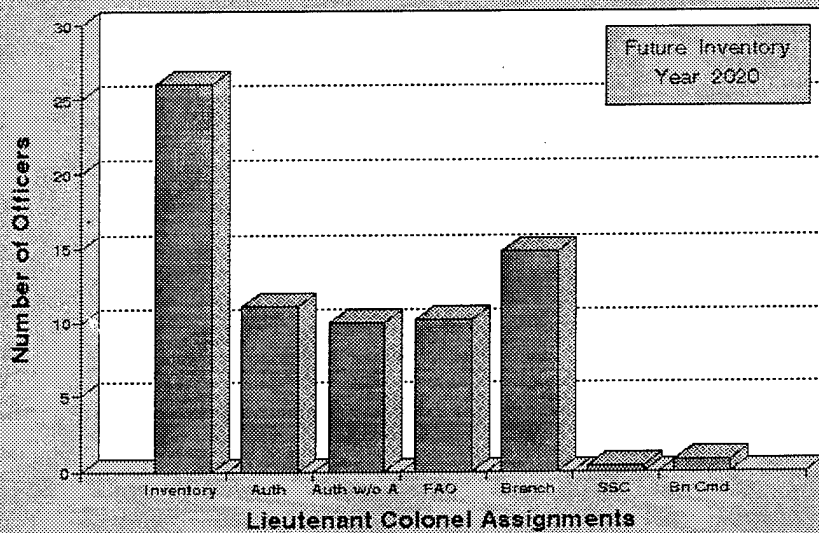
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
D	19	11	10	9.65	8.1	0.4	0.85

## Lieutenant Colonel Inventory Strategy 1 - AOC Echo



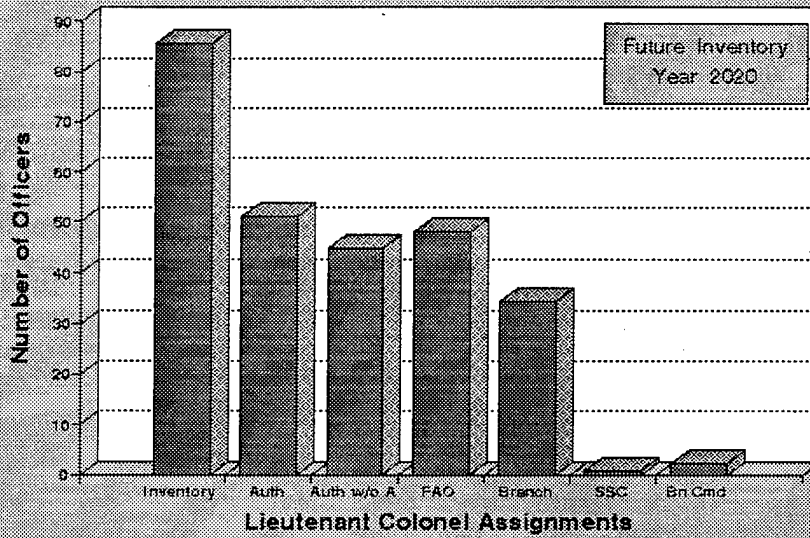
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
E	103.9	58	51	55.4	44.35	1.1	3.05

## Lieutenant Colonel Inventory Strategy 1 - AOC Foxtrot



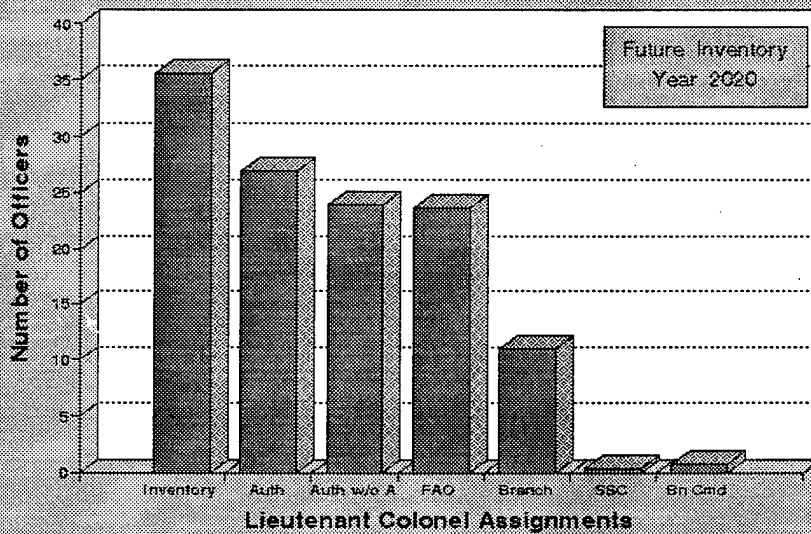
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
F	26	11	10	10.15	14.7	0.35	0.8

## Lieutenant Colonel Inventory Strategy 1 - AOC Golf



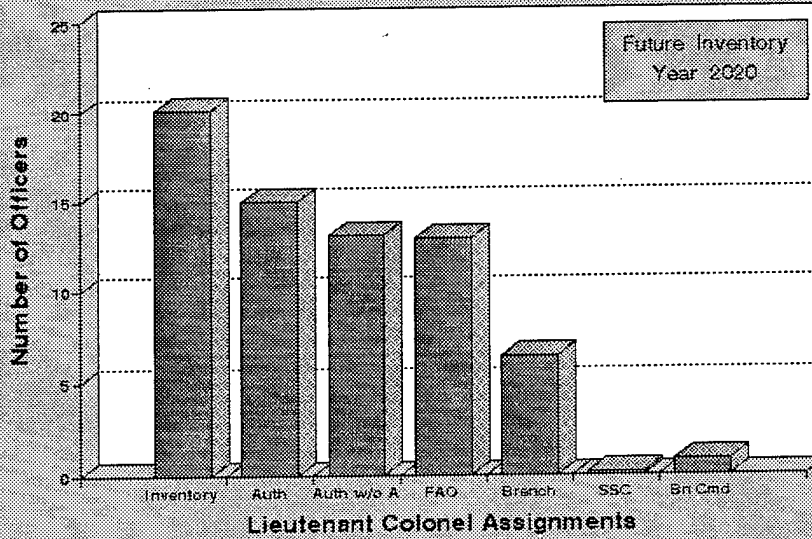
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
G	85.45	51	45	48.25	34.1	0.75	2.35

## Lieutenant Colonel Inventory Strategy 1 - AOC Hotel



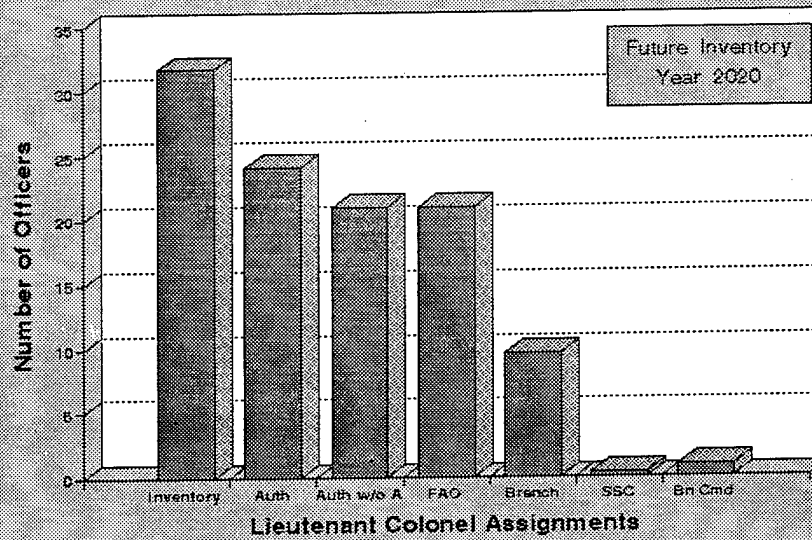
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
H	35.65	27	24	23.65	10.95	0.3	0.75

## Lieutenant Colonel Inventory Strategy 1 - AOC India



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
I	20.15	15	13	12.85	6.35	0.15	0.8

## Lieutenant Colonel Inventory Strategy 1 - AOC Juliet

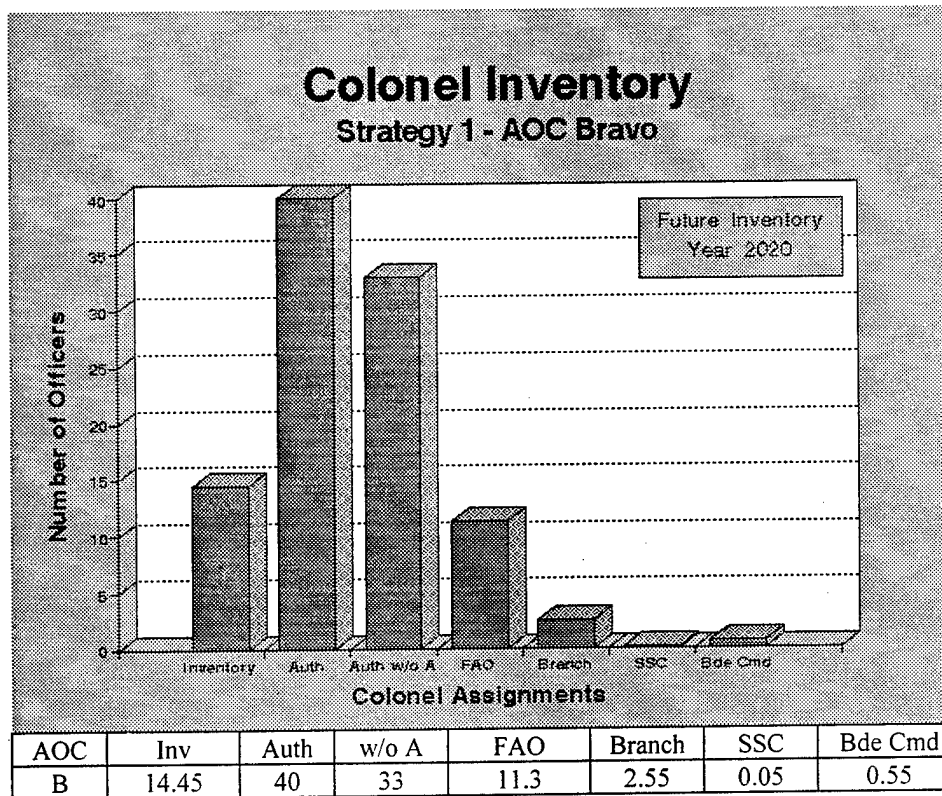


AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
J	31.65	24	21	20.9	9.6	0.3	0.85

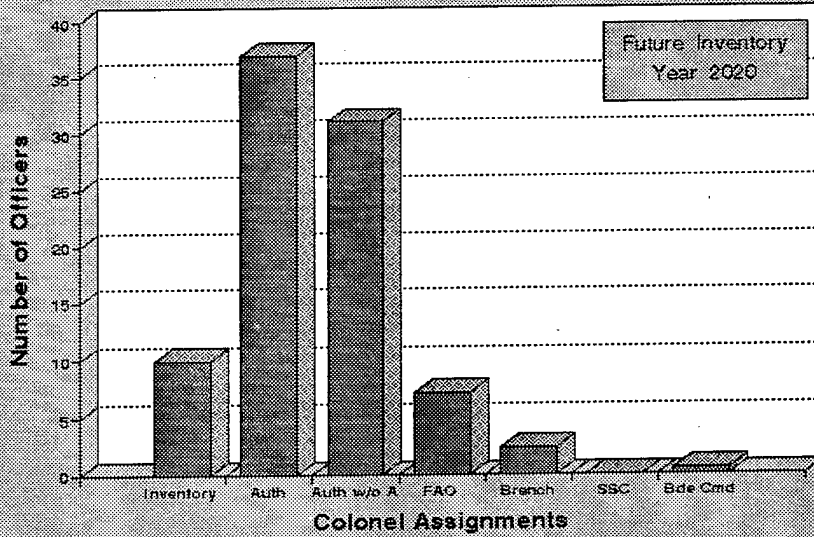
# COLONEL INVENTORIES

Summary: Strategy 1 Year 2020

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
B	14.45	40	33	11.3	2.55	0.05	0.55
C	9.9	37	31	7.1	2.3	0	0.5
D	2.55	2	2	1.4	1.15	0	0
E	19.05	26	22	15.2	3.35	0.05	0.45
F	5.15	4	3	3.1	1.9	0	0.15
G	15.7	33	27	12.85	2.45	0.05	0.35
H	6.2	5	4	3.7	2.35	0	0.15
I	4.5	11	9	3.55	0.85	0	0.1
J	7.5	10	8	6.05	1.2	0.05	0.2

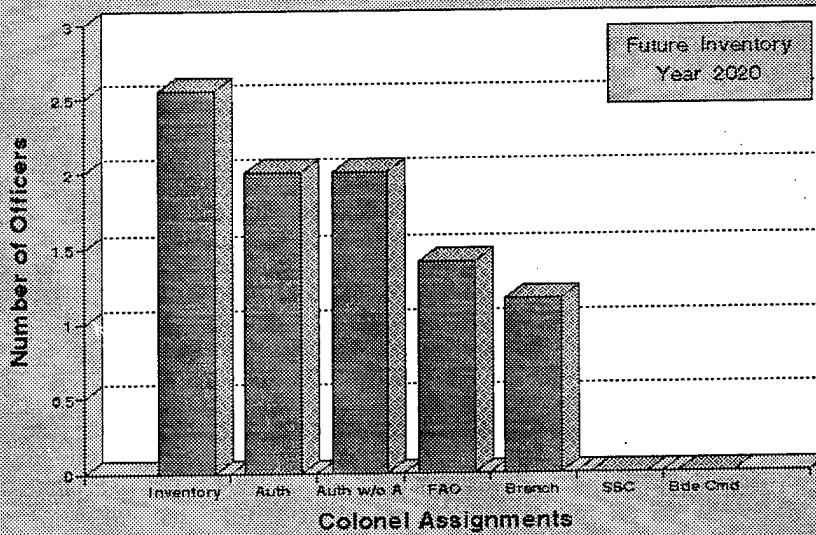


## Colonel Inventory Strategy 1 - AOC Charlie



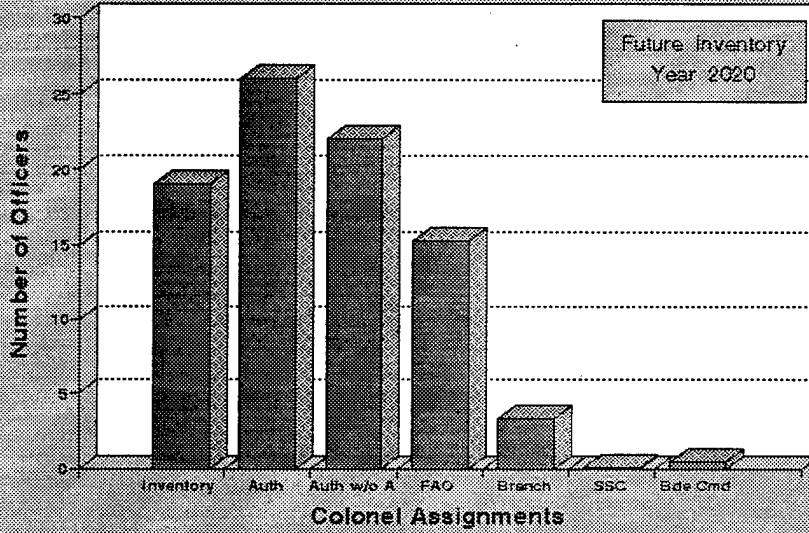
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
C	9.9	37	31	7.1	2.3	0	0.5

## Colonel Inventory Strategy 1 - AOC Delta



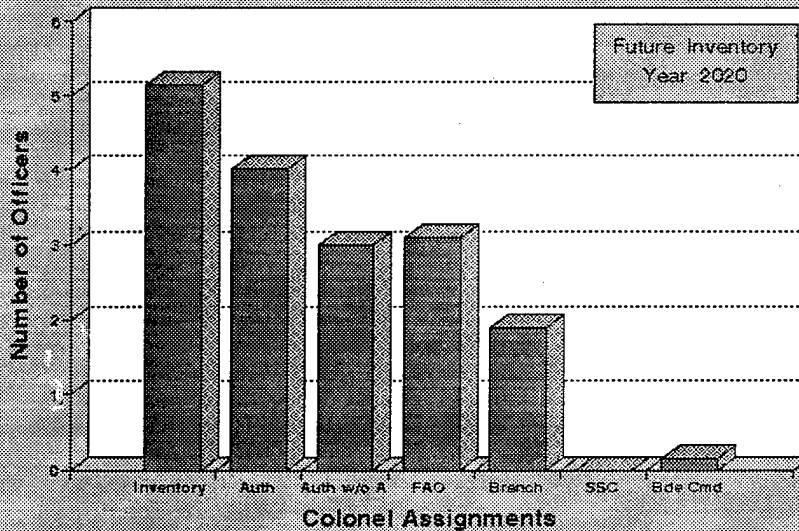
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
D	2.55	2	2	1.4	1.15	0	0

## Colonel Inventory Strategy 1 - AOC Echo



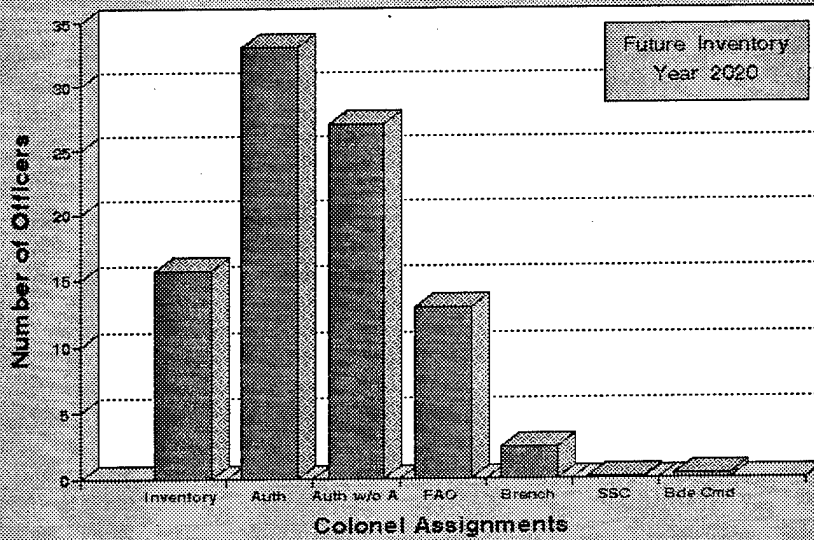
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
E	19.05	26	22	15.2	3.35	0.05	0.45

## Colonel Inventory Strategy 1 - AOC Foxtrot



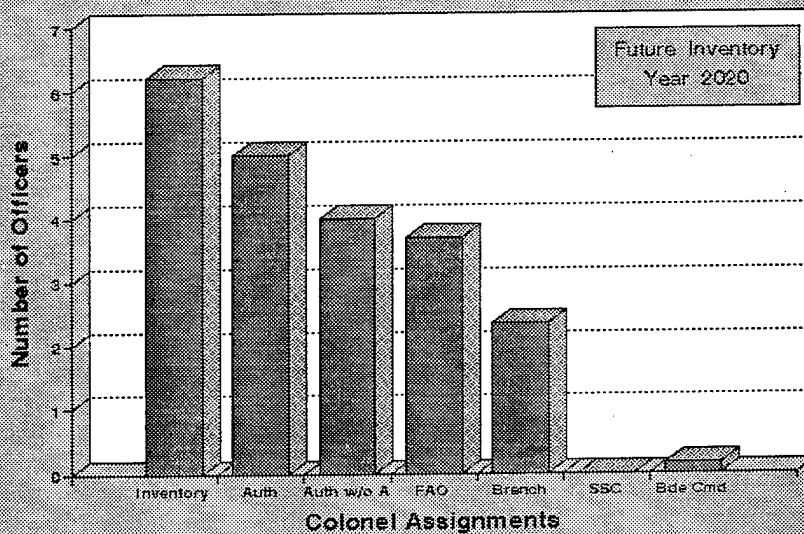
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
F	5.15	4	3	3.1	1.9	0	0.15

## Colonel Inventory Strategy 1 - AOC Golf



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
G	15.7	33	27	12.85	2.45	0.05	0.35

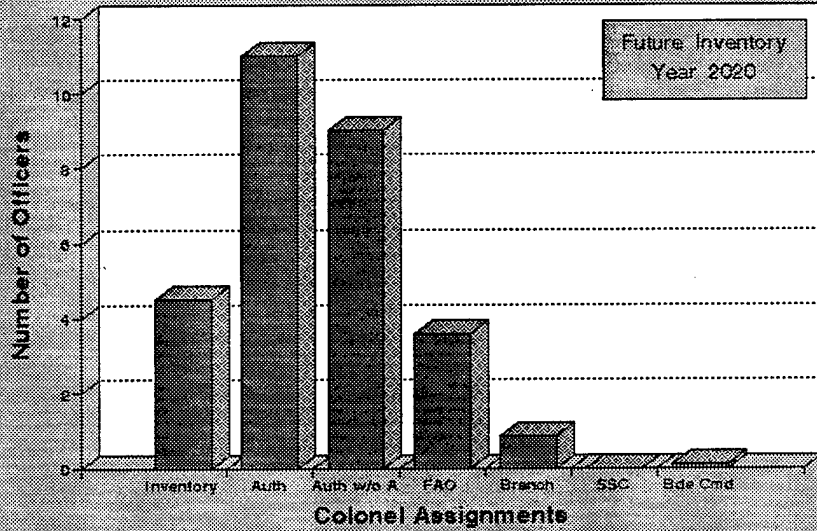
## Colonel Inventory Strategy 1 - AOC Hotel



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
H	6.2	5	4	3.7	2.35	0	0.15

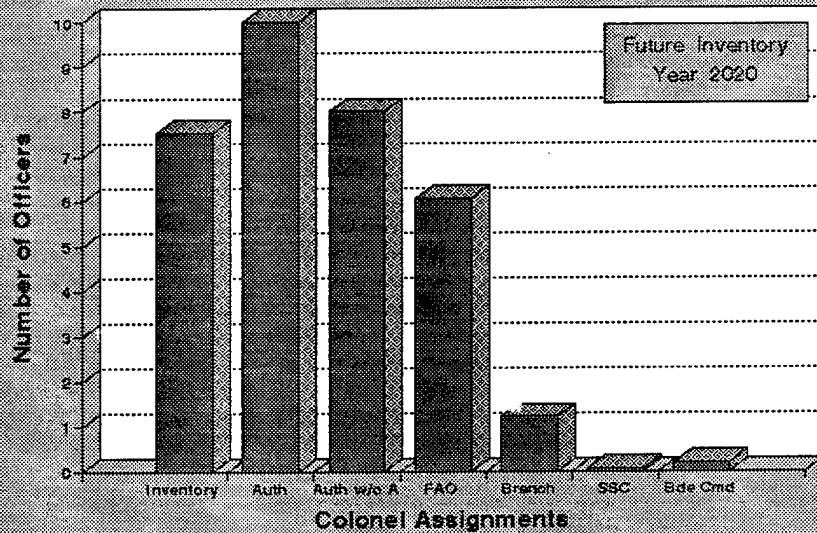


## Colonel Inventory Strategy 1 - AOC India



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
I	4.5	11	9	3.55	0.85	0	0.1

## Colonel Inventory Strategy 1 - AOC Juliet

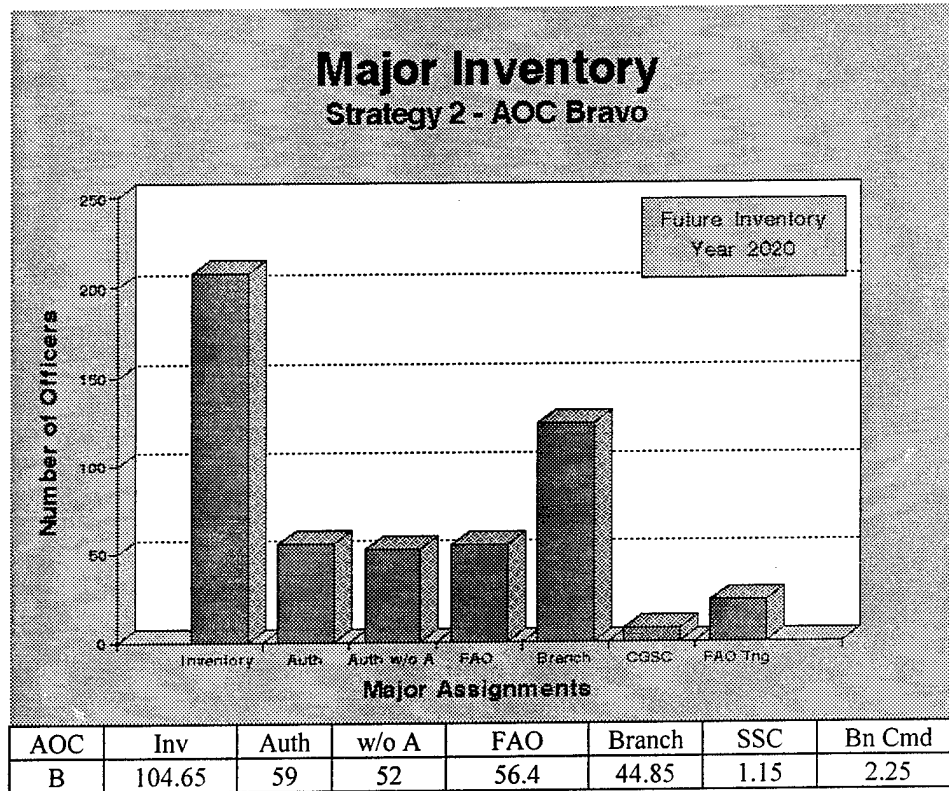


AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
J	7.5	10	8	6.05	1.2	0.05	0.2

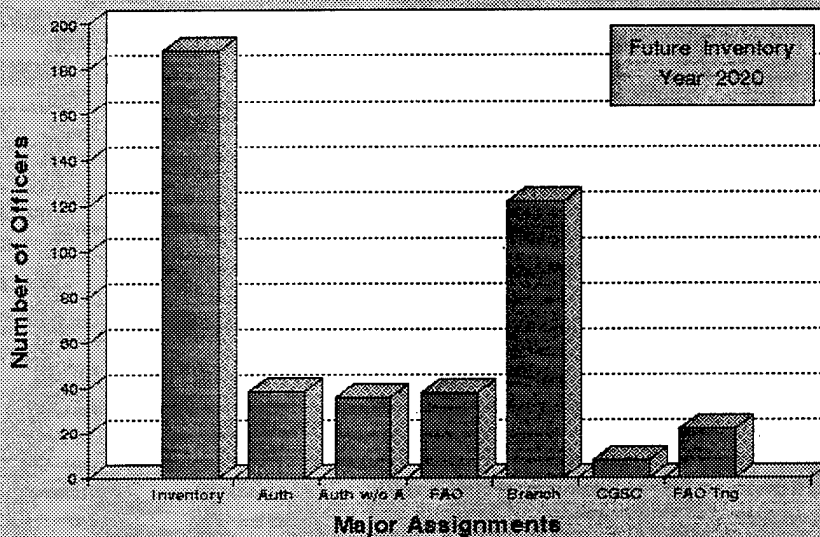
## MAJOR INVENTORIES

Summary: Strategy 2 Year 2020

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
B	104.65	59	52	56.4	44.85	1.15	2.25
C	93.45	40	35	38.35	51.95	0.75	2.4
D	12.45	11	10	8.1	3.6	0.2	0.55
E	64.2	58	51	47.35	14.65	1.1	1.1
F	16.15	11	10	9.7	5.75	0.25	0.45
G	81.95	51	45	47.2	31.5	1.15	2.1
H	18.7	27	24	13.55	4.45	0.15	0.55
I	30.1	15	13	14.6	14	0.2	1.3
J	31.45	24	21	20.85	9.15	0.4	1.05

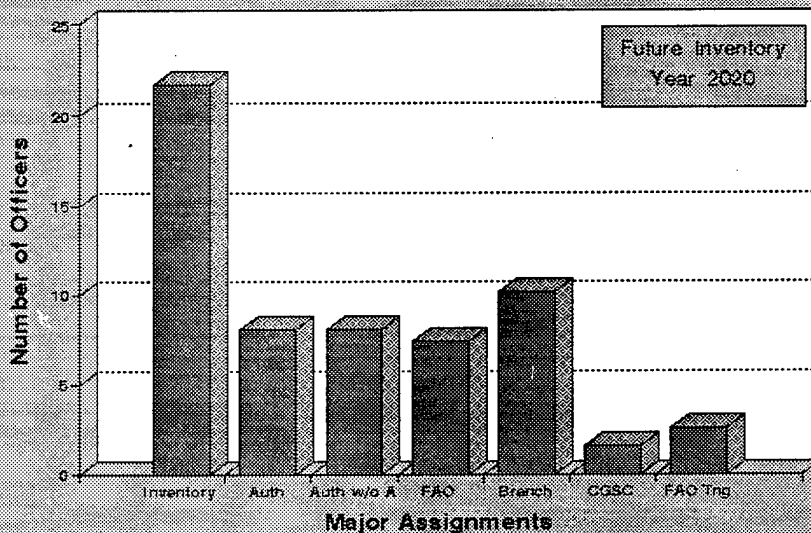


## Major Inventory Strategy 2 - AOC Charlie



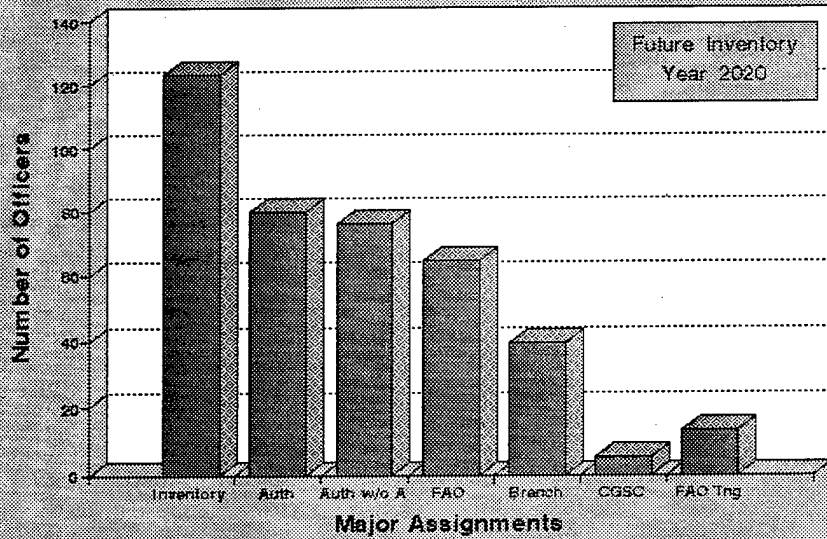
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
C	93.45	40	35	38.35	51.95	0.75	2.4

## Major Inventory Strategy 2 - AOC Delta



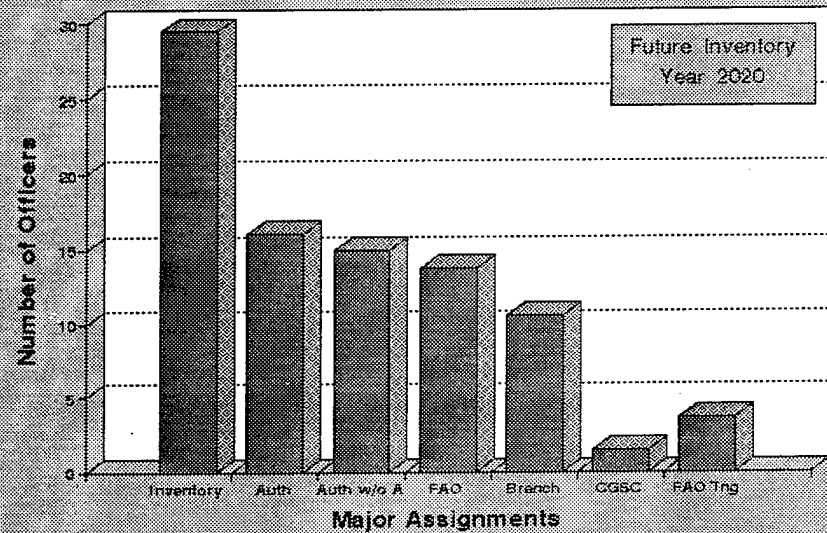
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
D	12.45	11	10	8.1	3.6	0.2	0.55

## Major Inventory Strategy 2 - AOC Echo



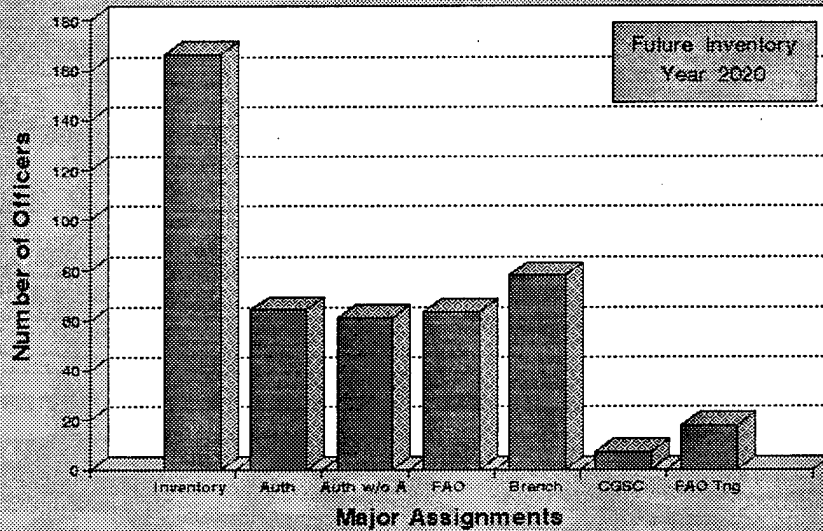
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
E	64.2	58	51	47.35	14.65	1.1	1.1

## Major Inventory Strategy 2 - AOC Foxtrot



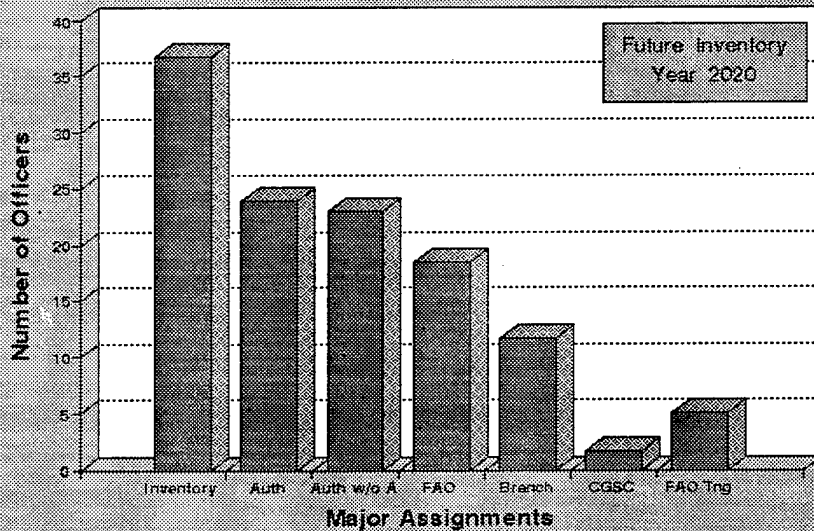
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
F	16.15	11	10	9.7	5.75	0.25	0.45

## Major Inventory Strategy 2 - AOC Golf



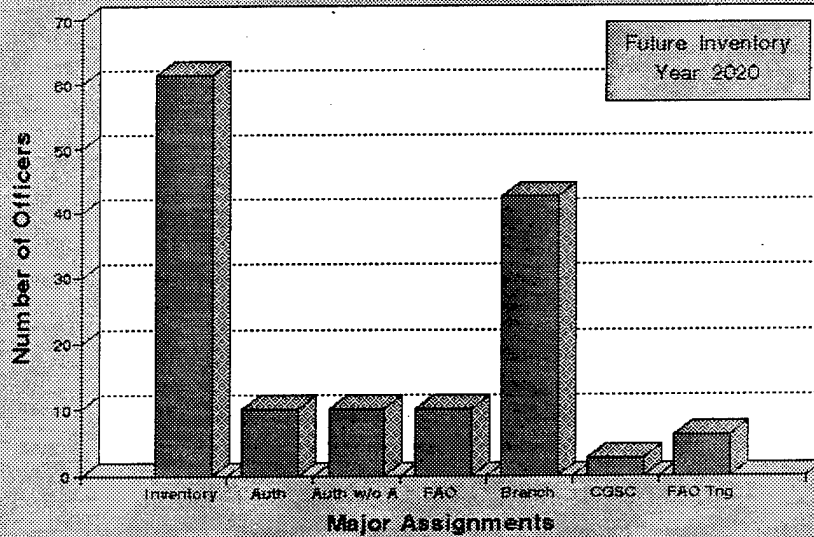
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
G	81.95	51	45	47.2	31.5	1.15	2.1

## Major Inventory Strategy 2 - AOC Hotel



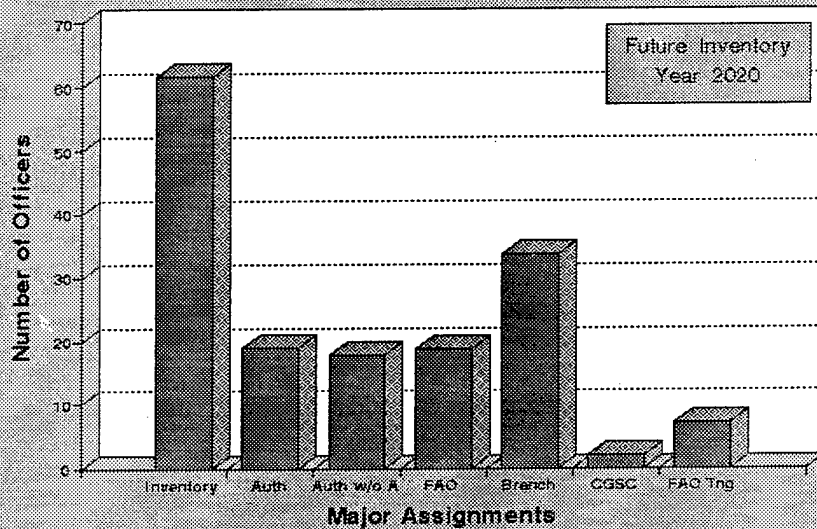
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
H	18.7	27	24	13.55	4.45	0.15	0.55

## Major Inventory Strategy 2 - AOC India



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
I	30.1	15	13	14.6	14	0.2	1.3

## Major Inventory Strategy 2 - AOC Juliet

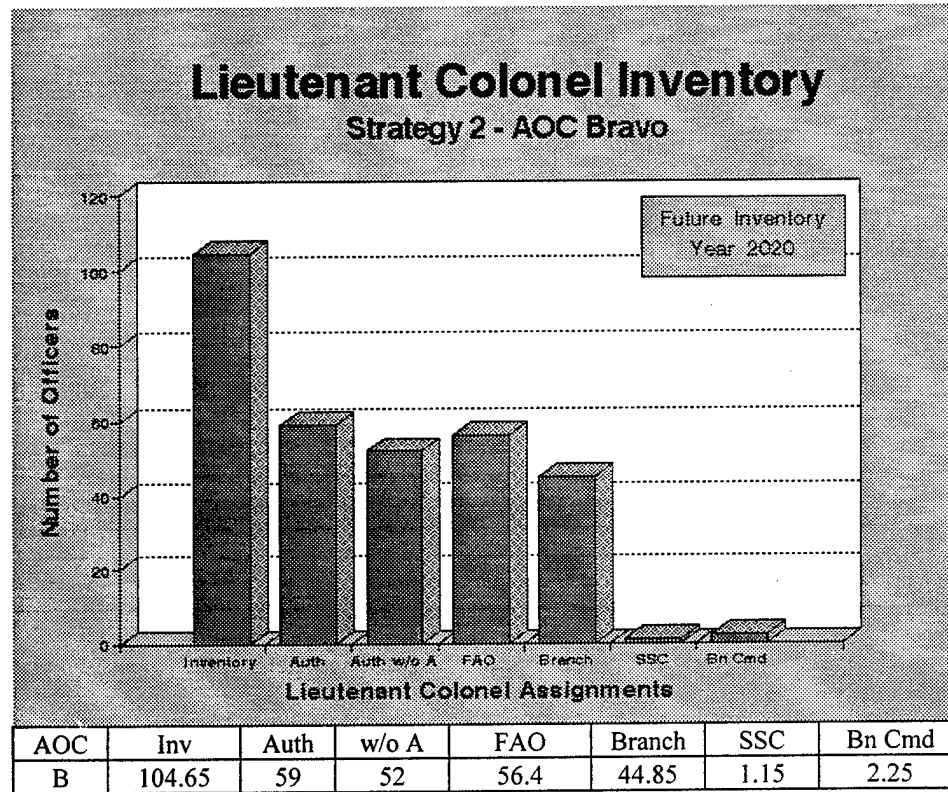


AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
J	31.45	24	21	20.85	9.15	0.4	1.05

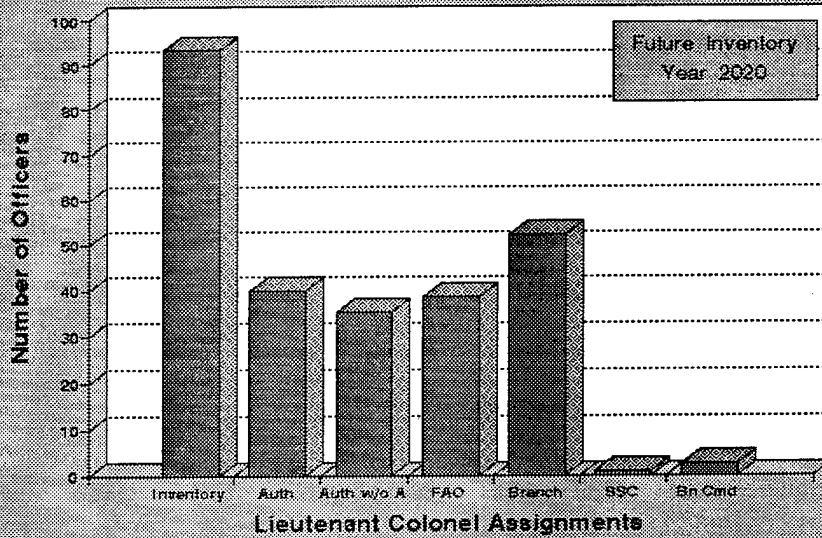
# LIEUTENANT COLONEL INVENTORIES

Summary: Strategy 2 Year 2020

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
B	104.65	59	52	56.4	44.85	1.15	2.25
C	93.45	40	35	38.35	51.95	0.75	2.4
D	12.45	11	10	8.1	3.6	0.2	0.55
E	64.2	58	51	47.35	14.65	1.1	1.1
F	16.15	11	10	9.7	5.75	0.25	0.45
G	81.95	51	45	47.2	31.5	1.15	2.1
H	18.7	27	24	13.55	4.45	0.15	0.55
I	30.1	15	13	14.6	14	0.2	1.3
J	31.45	24	21	20.85	9.15	0.4	1.05

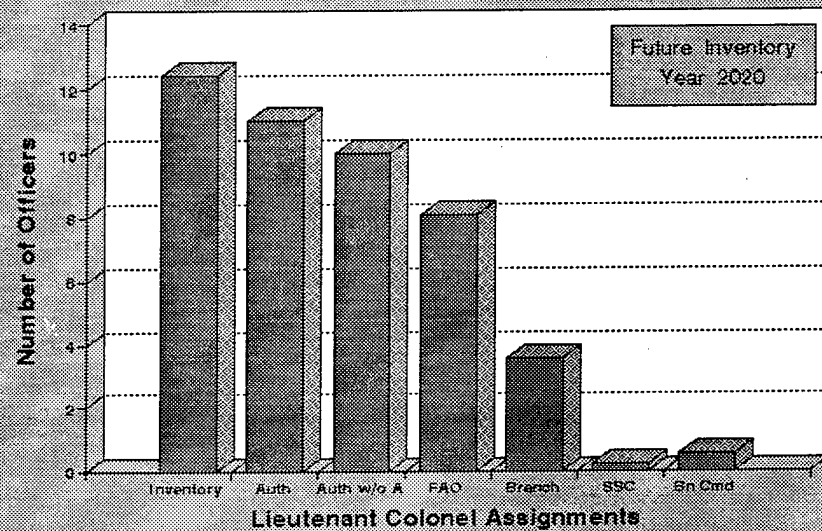


## Lieutenant Colonel Inventory Strategy 2 - AOC Charlie



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
C	93.45	40	35	38.35	51.95	0.75	2.4

## Lieutenant Colonel Inventory Strategy 2 - AOC Delta

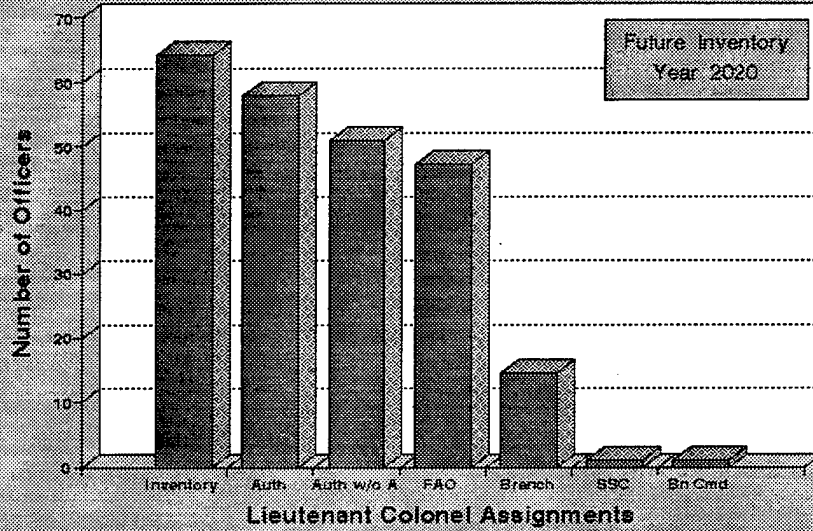


AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
D	12.45	11	10	8.1	3.6	0.2	0.55



## Lieutenant Colonel Inventory

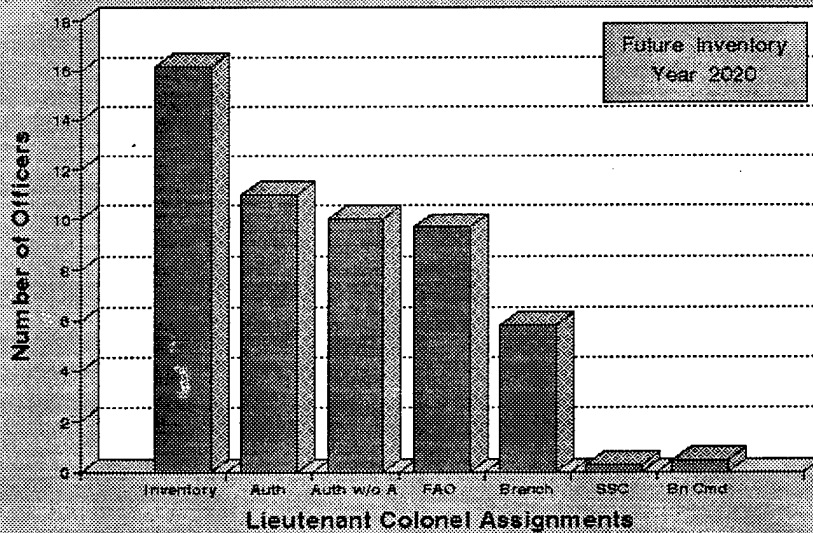
### Strategy 2 - AOC Echo



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
E	64.2	58	51	47.35	14.65	1.1	1.1

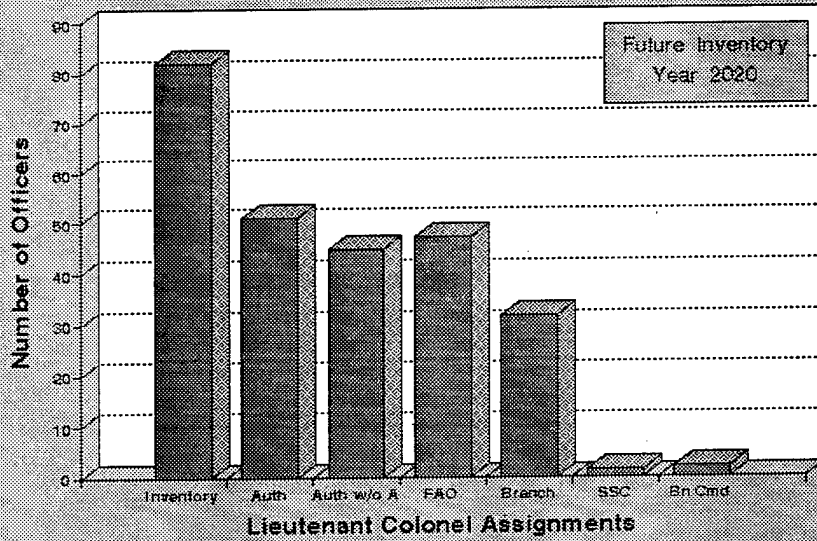
## Lieutenant Colonel Inventory

### Strategy 2 - AOC Foxtrot



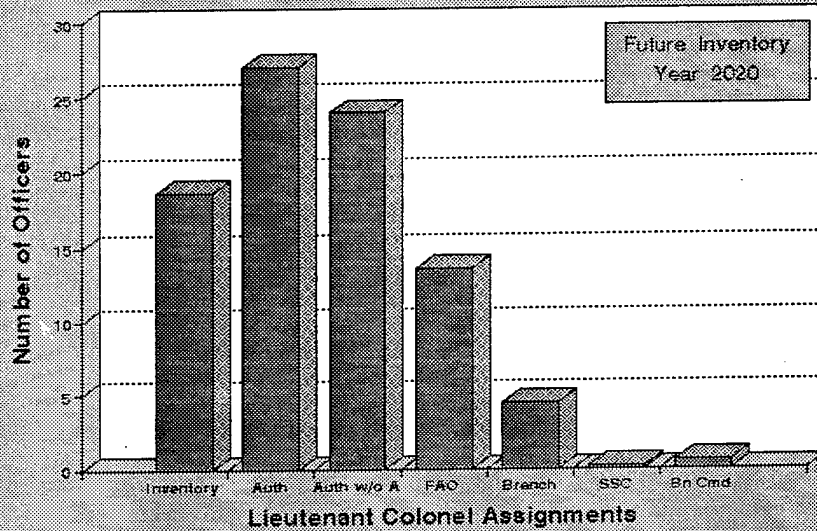
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
F	16.15	11	10	9.7	5.75	0.25	0.45

## Lieutenant Colonel Inventory Strategy 2 - AOC Golf



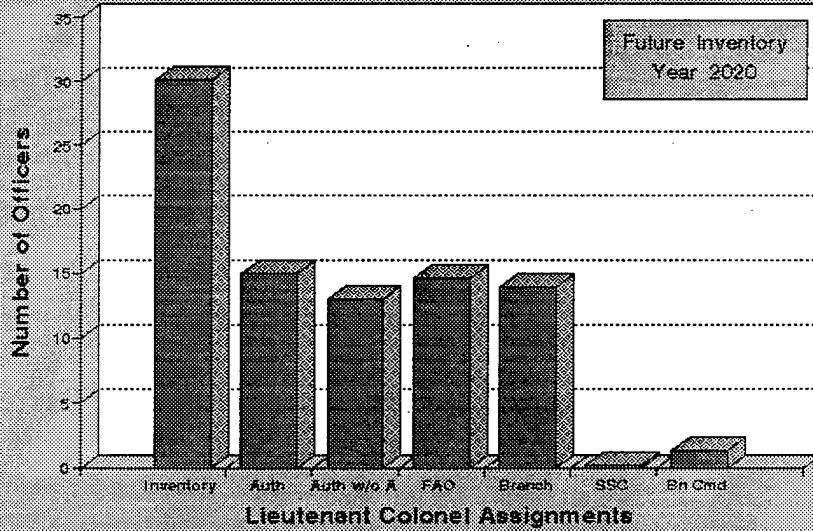
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
G	81.95	51	45	47.2	31.5	1.15	2.1

## Lieutenant Colonel Inventory Strategy 2 - AOC Hotel



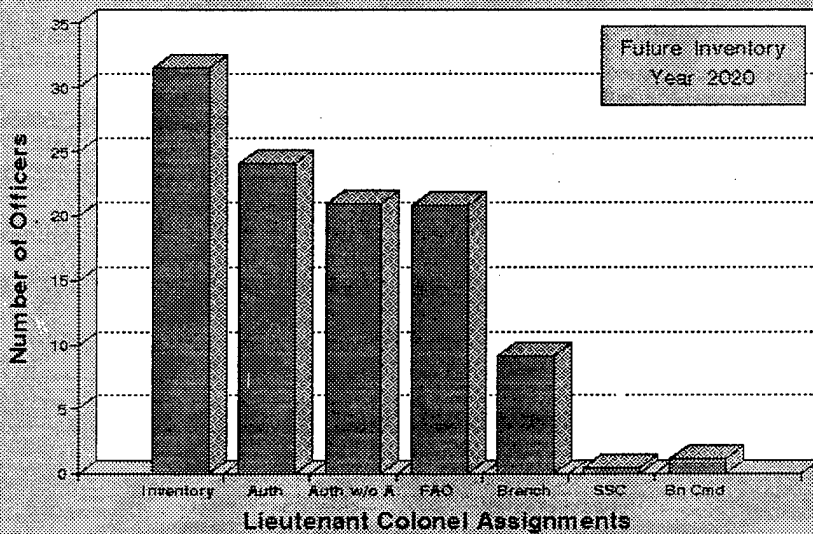
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
H	18.7	27	24	13.55	4.45	0.15	0.55

## Lieutenant Colonel Inventory Strategy 2 - AOC India



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
I	30.1	15	13	14.6	14	0.2	1.3

## Lieutenant Colonel Inventory Strategy 2 - AOC Juliet

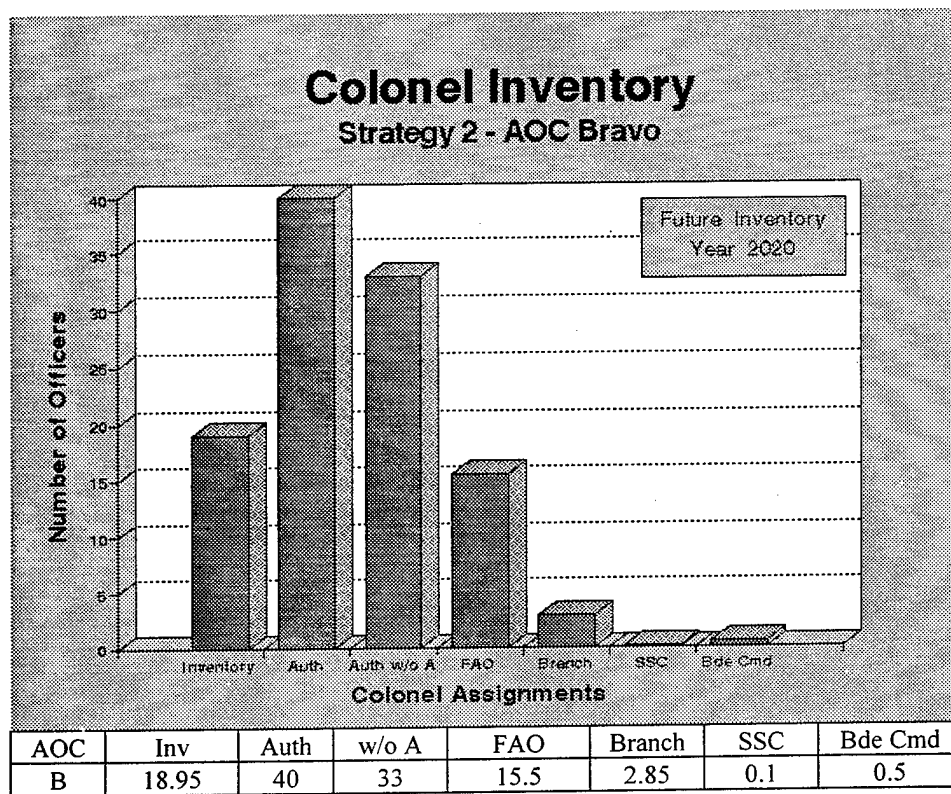


AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
J	31.45	24	21	20.85	9.15	0.4	1.05

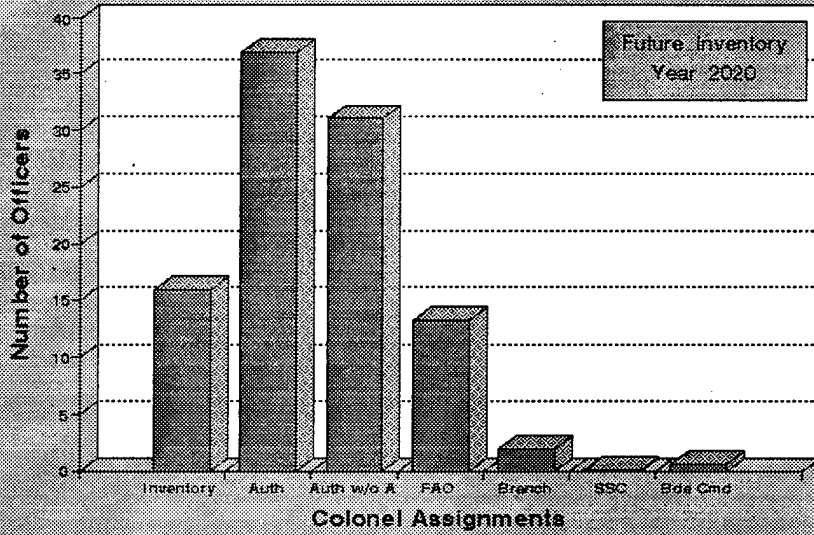
# COLONEL INVENTORIES

Summary: Strategy 2 Year 2020

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
B	18.95	40	33	15.5	2.85	0.1	0.5
C	15.85	37	31	13.25	1.9	0.05	0.65
D	1.9	2	2	1	0.85	0	0.05
E	11.45	26	22	9.35	1.7	0.05	0.35
F	3.6	4	3	2.7	0.75	0.1	0.05
G	16.75	33	27	13.8	2.25	0.15	0.55
H	4.25	5	4	3.05	0.9	0	0.3
I	4.75	11	9	3.65	0.9	0	0.2
J	6.85	10	8	5.4	1	0.05	0.4

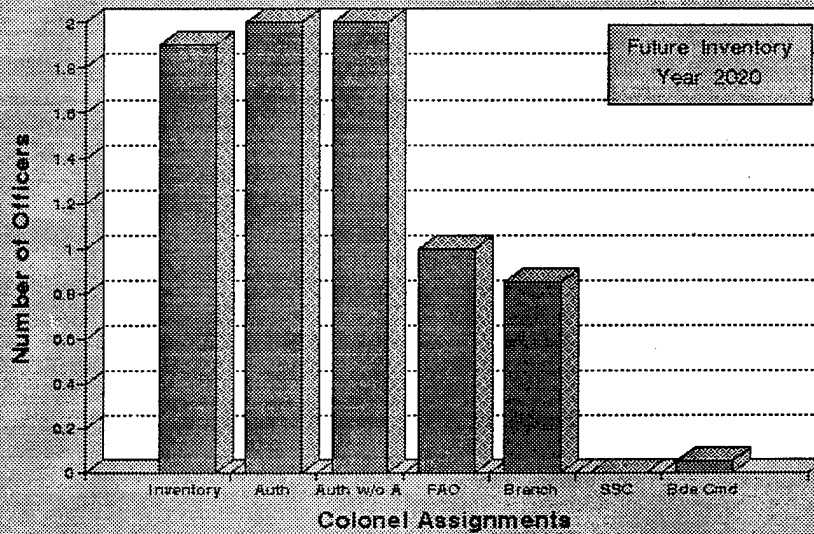


## Colonel Inventory Strategy 2 - AOC Charlie



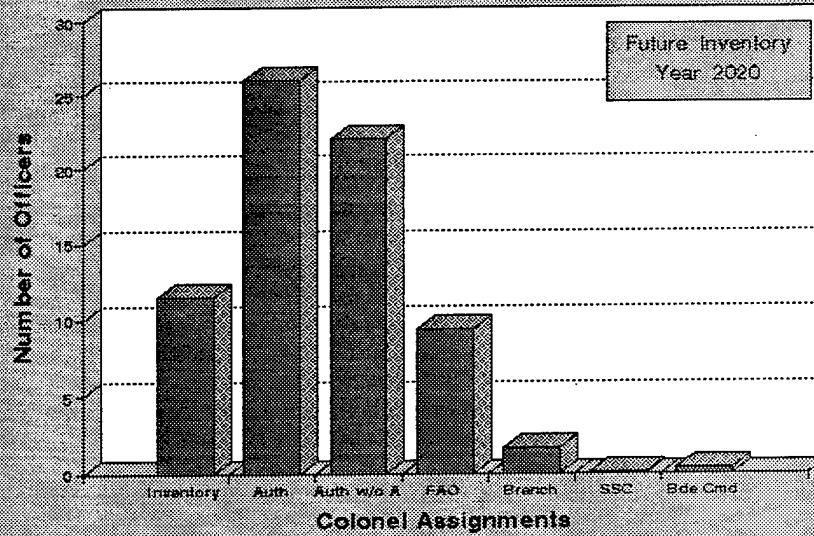
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
C	15.85	37	31	13.25	1.9	0.05	0.65

## Colonel Inventory Strategy 2 - AOC Delta



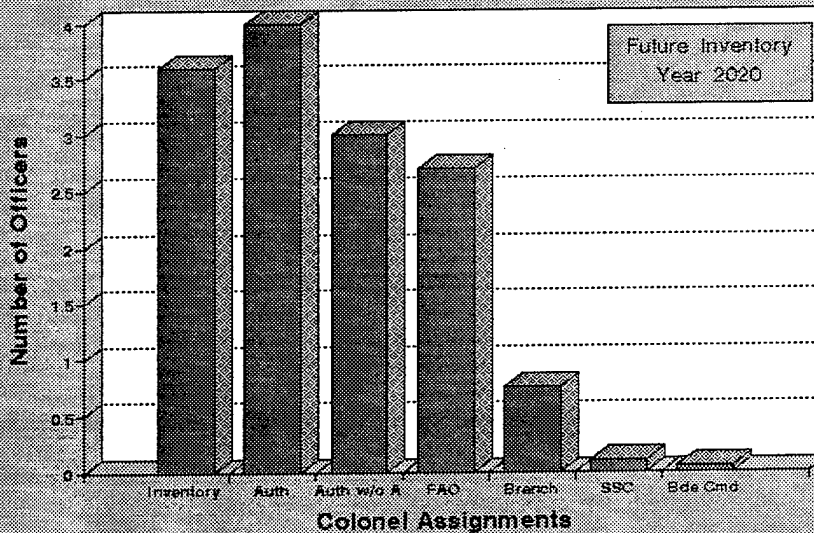
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
D	1.9	2	2	1	0.85	0	0.05

## Colonel Inventory Strategy 2 - AOC Echo



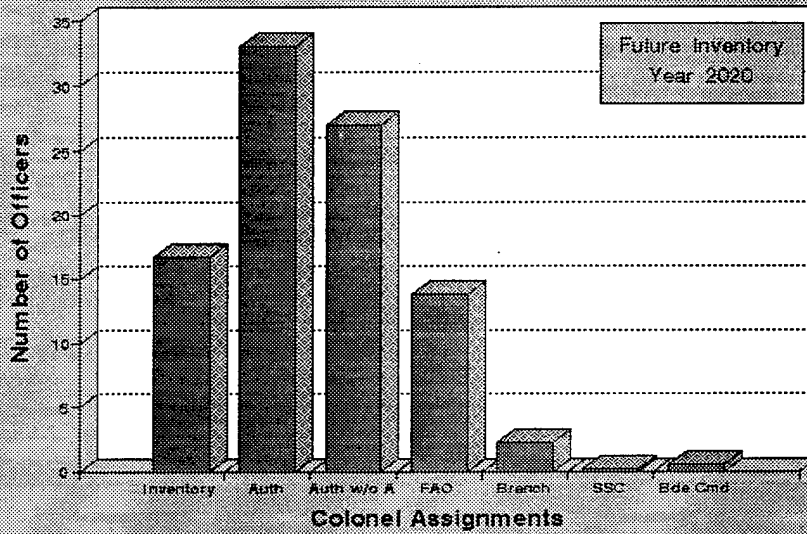
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
E	11.45	26	22	9.35	1.7	0.05	0.35

## Colonel Inventory Strategy 2 - AOC Foxtrot



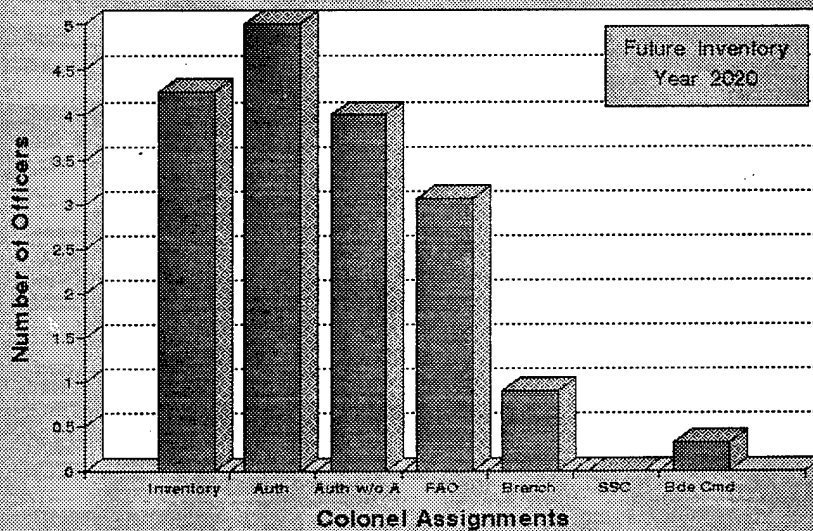
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
F	3.6	4	3	2.7	0.75	0.1	0.05

## Colonel Inventory Strategy 2 - AOC Golf



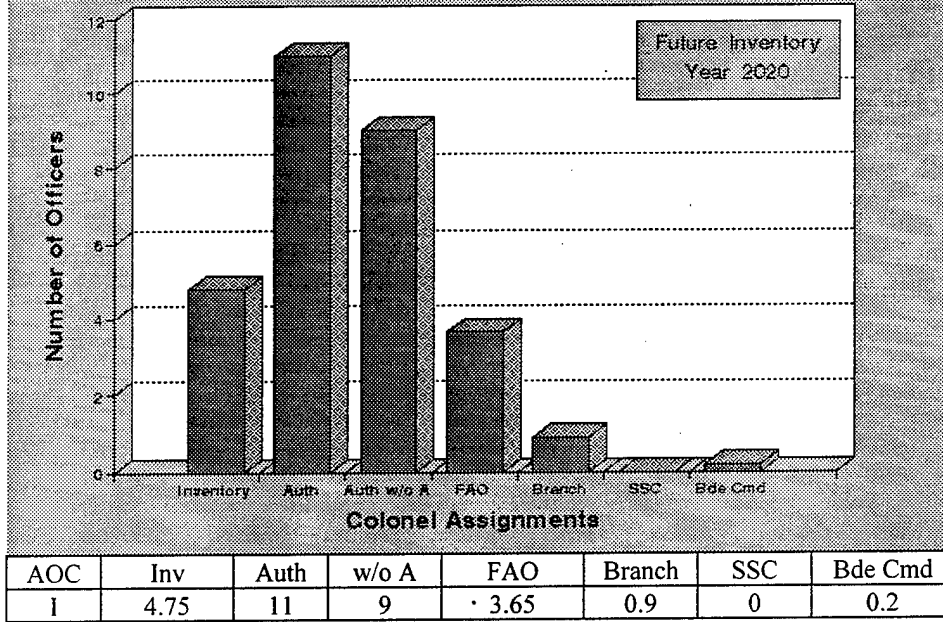
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
G	16.75	33	27	13.8	2.25	0.15	0.55

## Colonel Inventory Strategy 2 - AOC Hotel

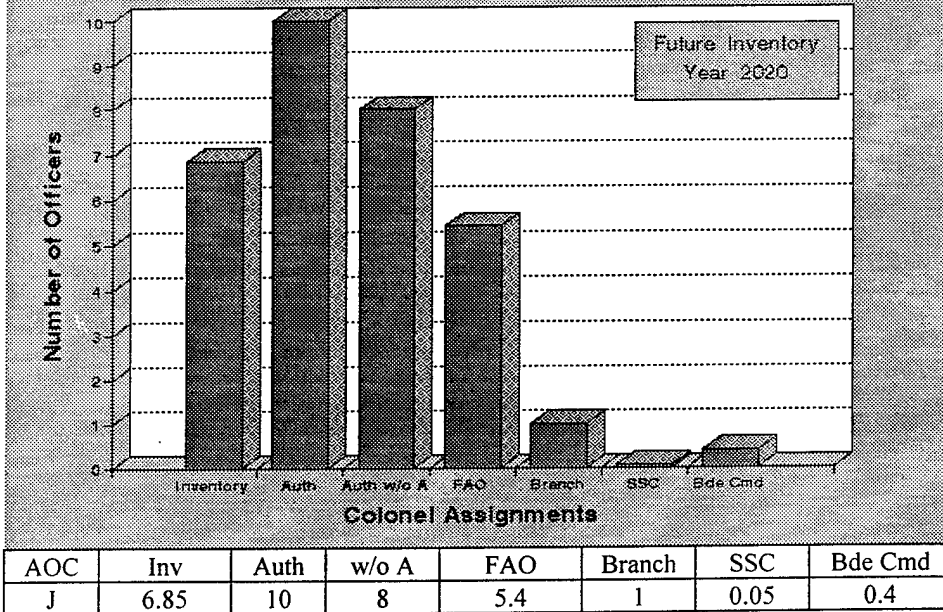


AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
H	4.25	5	4	3.05	0.9	0	0.3

## Colonel Inventory Strategy 2 - AOC India



## Colonel Inventory Strategy 2 - AOC Juliet

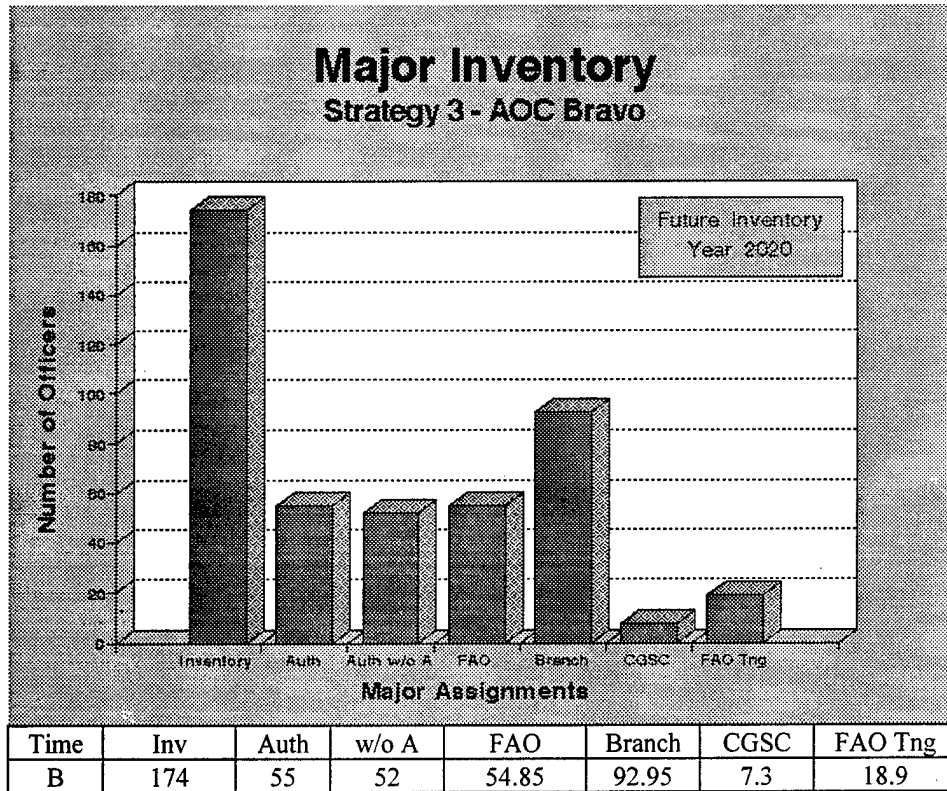




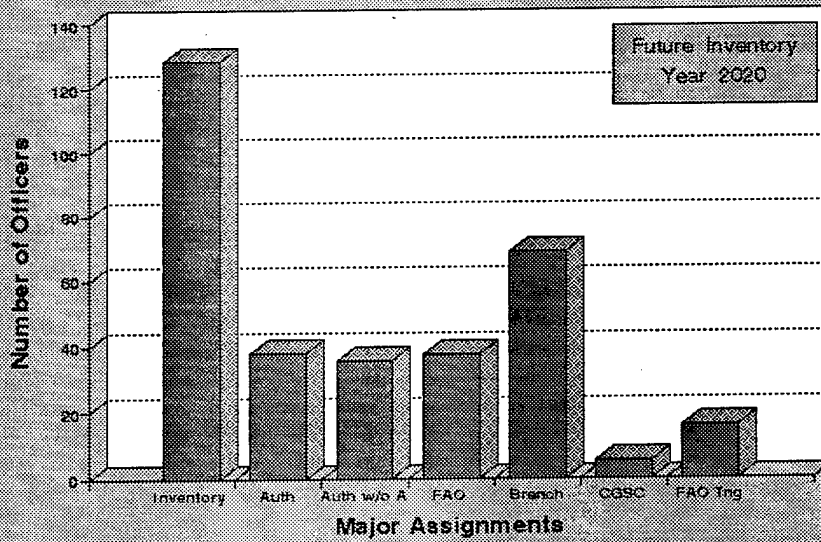
## MAJOR INVENTORIES

Summary: Strategy 3 Year 2020

Time	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
B	174	55	52	54.85	92.95	7.3	18.9
C	128.15	38	36	37.75	68.85	5.55	16
D	40.25	8	8	8	25.6	1.8	4.85
E	164	80	76	77.35	62.45	6.75	17.45
F	44.05	16	15	15.5	21.1	2.2	5.25
G	147.35	64	61	63.25	63.55	5.75	14.8
H	82.6	24	23	23.95	46	3.35	9.3
I	50.1	10	10	9.85	31.85	2.7	5.7
J	75.95	19	18	19	44.85	3	9.1

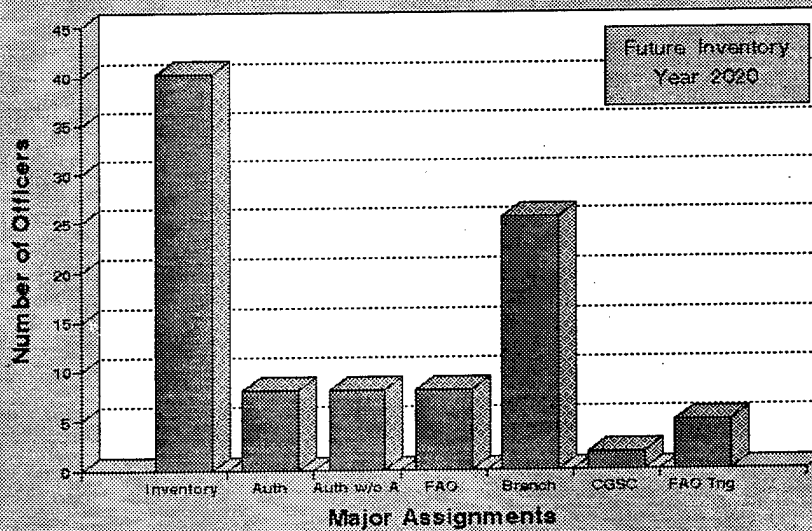


## Major Inventory Strategy 3 - AOC Charlie



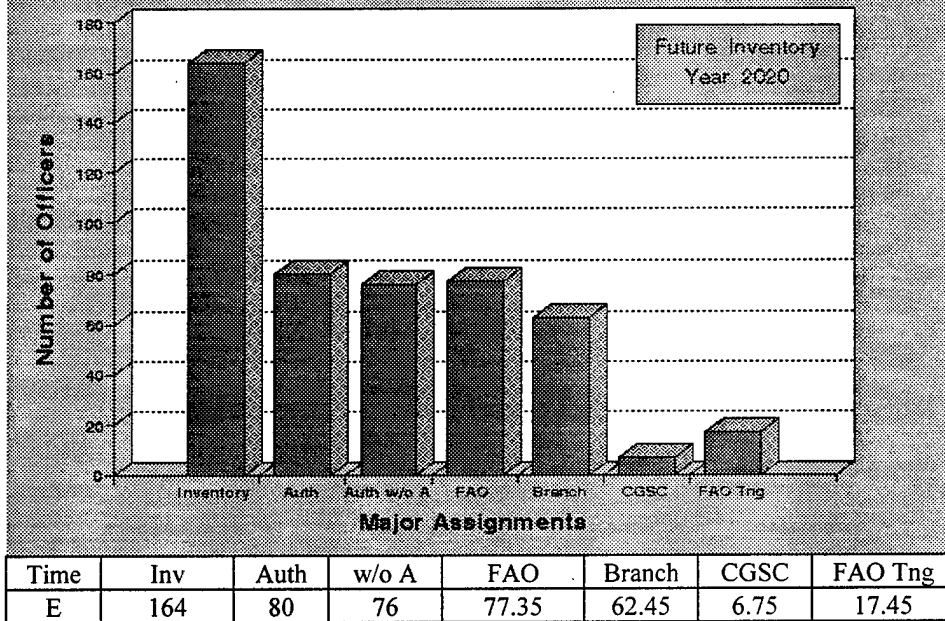
Time	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
C	128.15	38	36	37.75	68.85	5.55	16

## Major Inventory Strategy 3 - AOC Delta

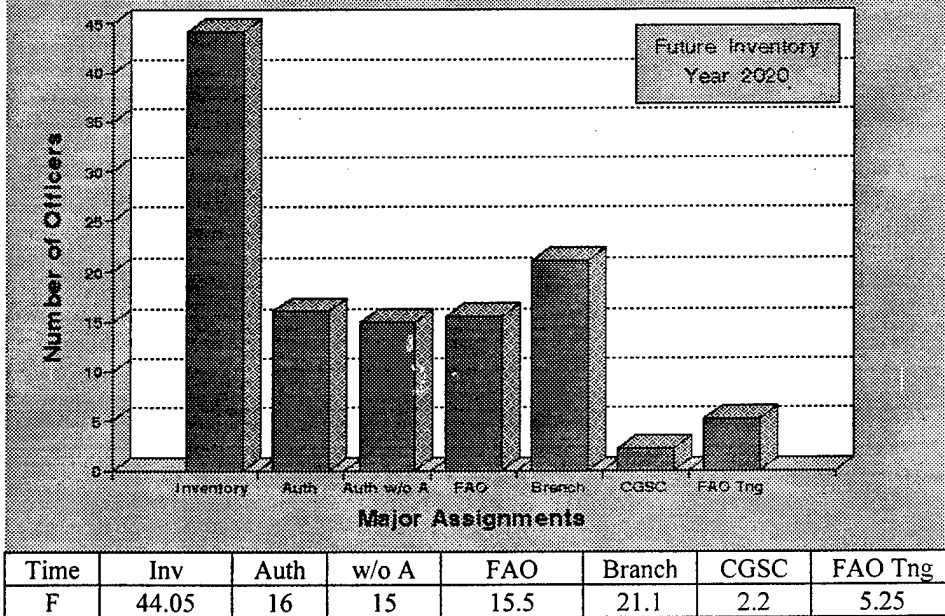


Time	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
D	40.25	8	8	8	25.6	1.8	4.85

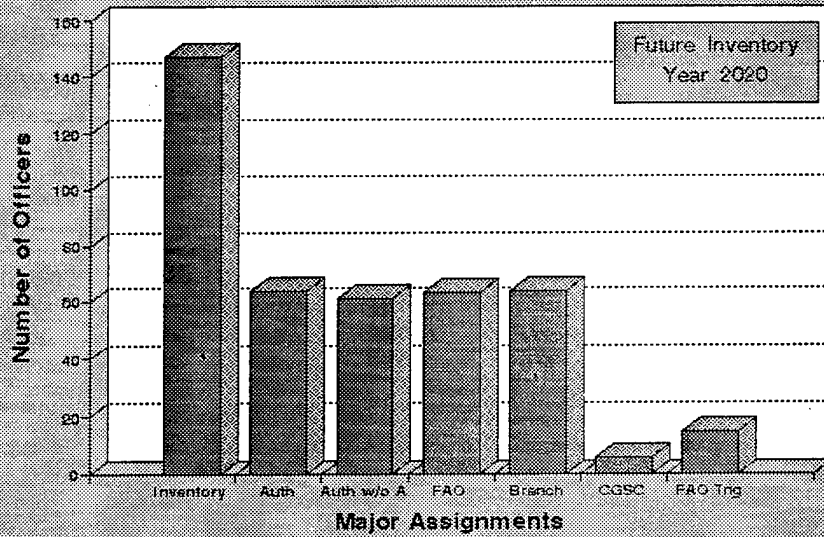
## Major Inventory Strategy 3 - AOC Echo



## Major Inventory Strategy 3 - AOC Foxtrot

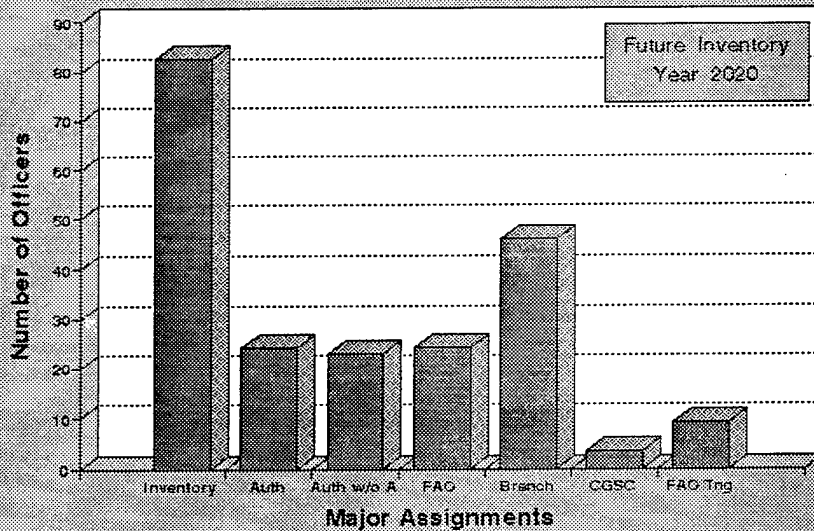


## Major Inventory Strategy 3 - AOC Golf



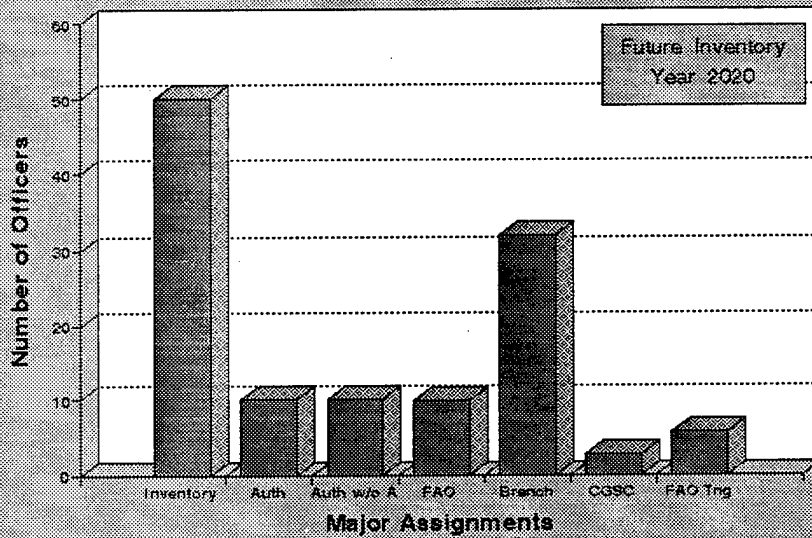
Time	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
G	147.35	64	61	63.25	63.55	5.75	14.8

## Major Inventory Strategy 3 - AOC Hotel



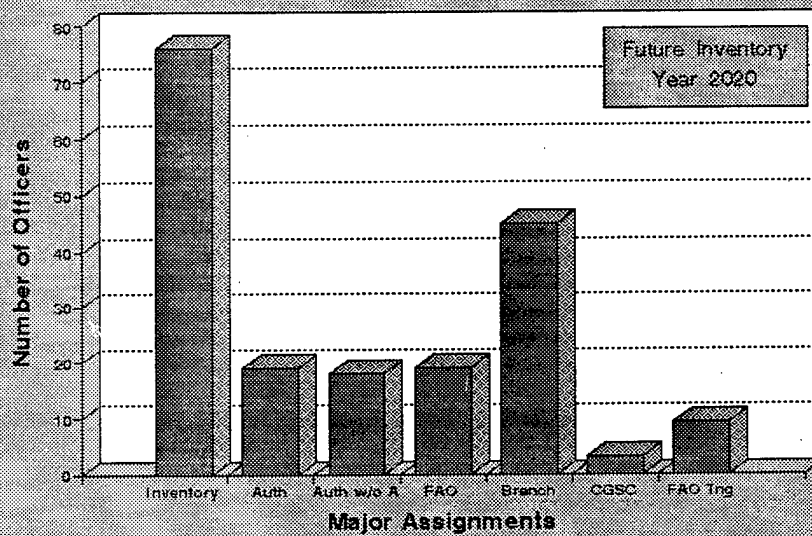
Time	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
H	82.6	24	23	23.95	46	3.35	9.3

## Major Inventory Strategy 3 - AOC India



Time	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
I	50.1	10	10	9.85	31.85	2.7	5.7

## Major Inventory Strategy 3 - AOC Juliet

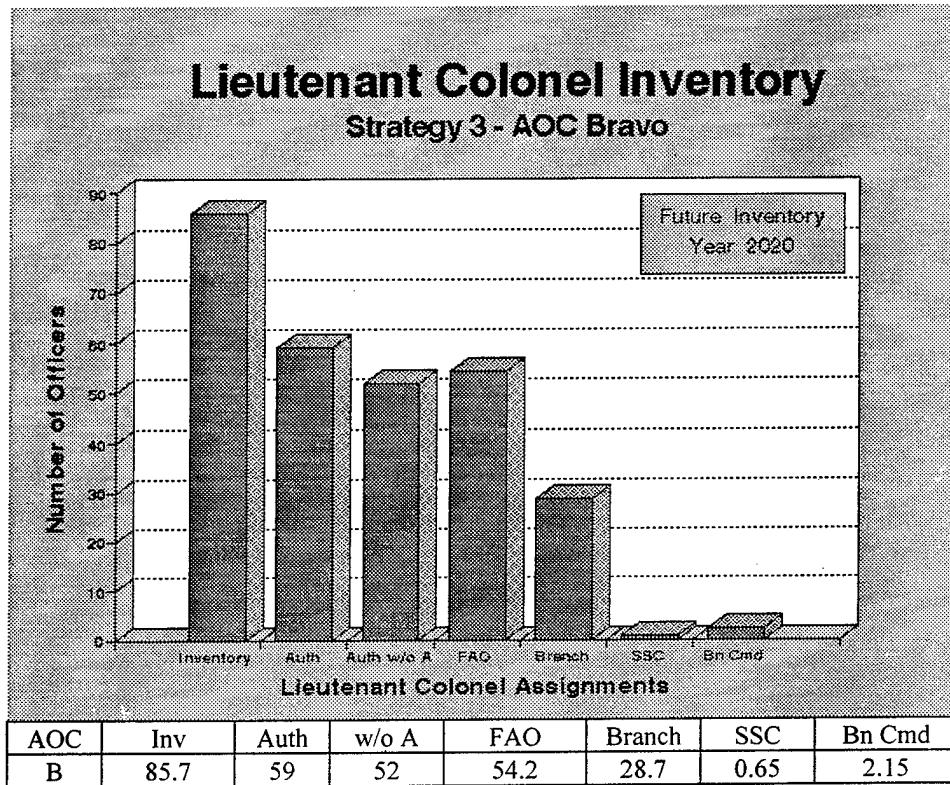


Time	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
J	75.95	19	18	19	44.85	3	9.1

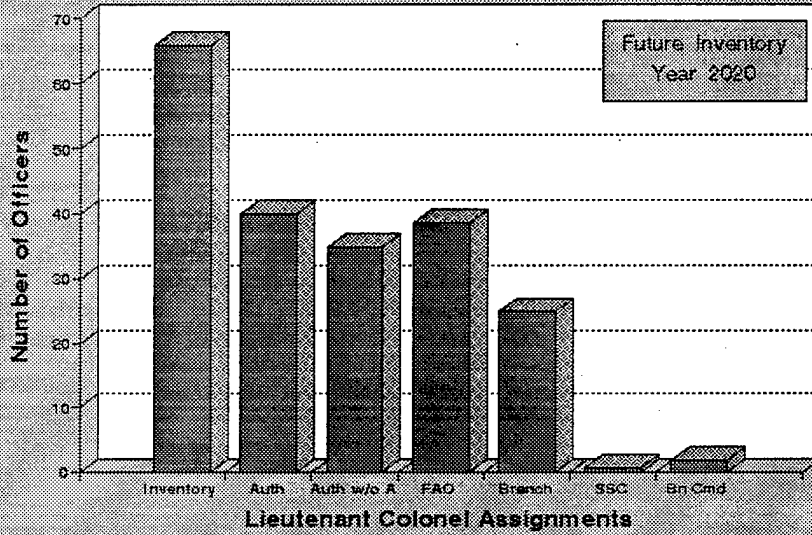
# LIEUTENANT COLONEL INVENTORIES

Summary: Strategy 3 Year 2020

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
B	85.7	59	52	54.2	28.7	0.65	2.15
C	65.8	40	35	38.5	24.95	0.65	1.7
D	20.6	11	10	10.45	9.1	0.2	0.85
E	80.4	58	51	54.05	23.5	0.75	2.1
F	23.75	11	10	10.4	12.6	0.1	0.65
G	71.2	51	45	47.2	21.35	0.65	2
H	42.55	27	24	24.95	15.6	0.65	1.35
I	27.85	15	13	14.65	12.15	0.45	0.6
J	39.45	24	21	22.5	15.5	0.5	0.95

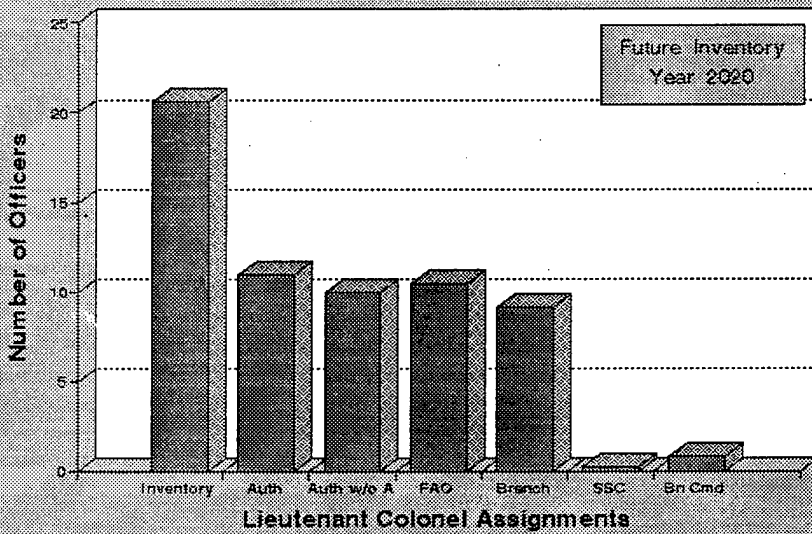


## Lieutenant Colonel Inventory Strategy 3 - AOC Charlie



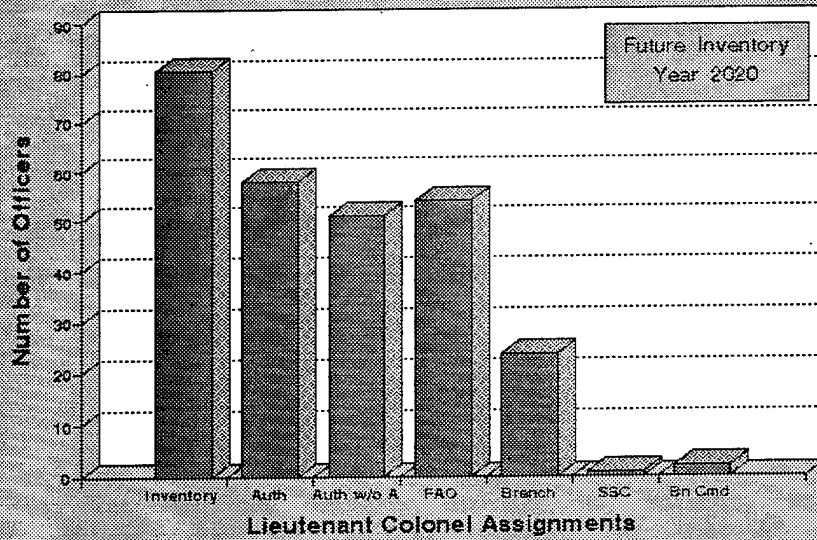
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
C	65.8	40	35	38.5	24.95	0.65	1.7

## Lieutenant Colonel Inventory Strategy 3 - AOC Delta



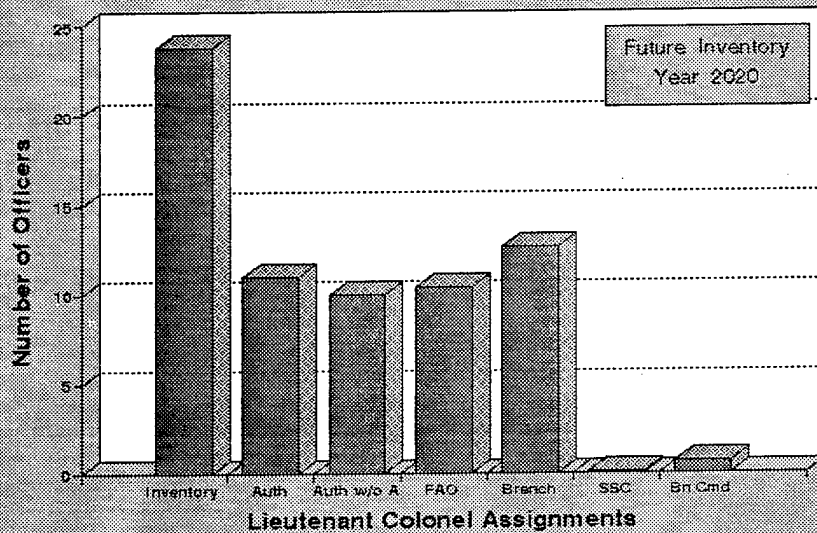
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
D	20.6	11	10	10.45	9.1	0.2	0.85

## Lieutenant Colonel Inventory Strategy 3 - AOC Echo



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
E	80.4	58	51	54.05	23.5	0.75	2.1

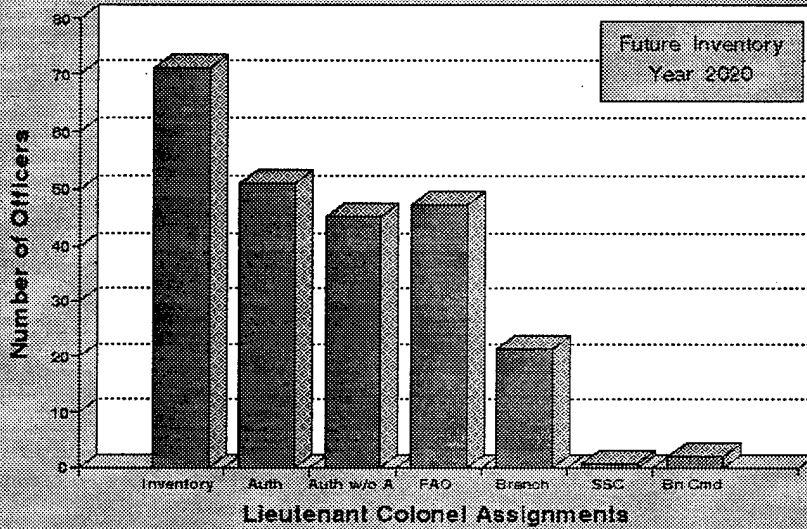
## Lieutenant Colonel Inventory Strategy 3 - AOC Foxtrot



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
F	23.75	11	10	10.4	12.6	0.1	0.65

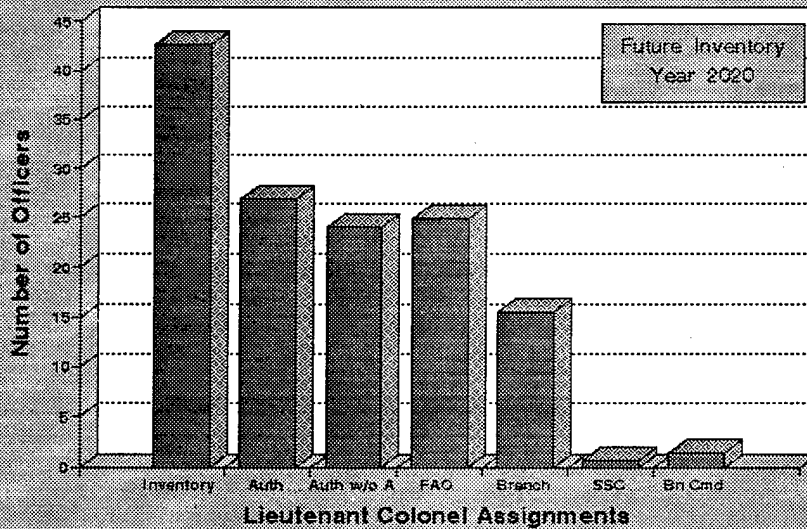


## Lieutenant Colonel Inventory Strategy 3 - AOC Golf



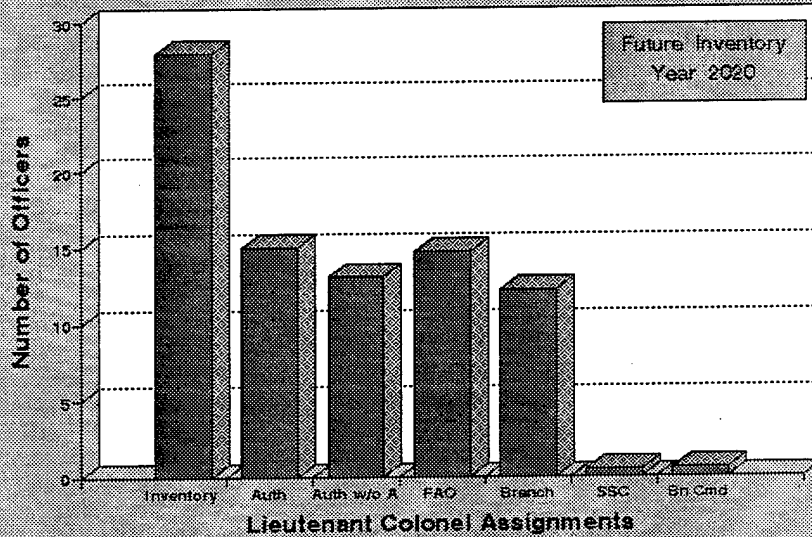
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
G	71.2	51	45	47.2	21.35	0.65	2

## Lieutenant Colonel Inventory Strategy 3 - AOC Hotel



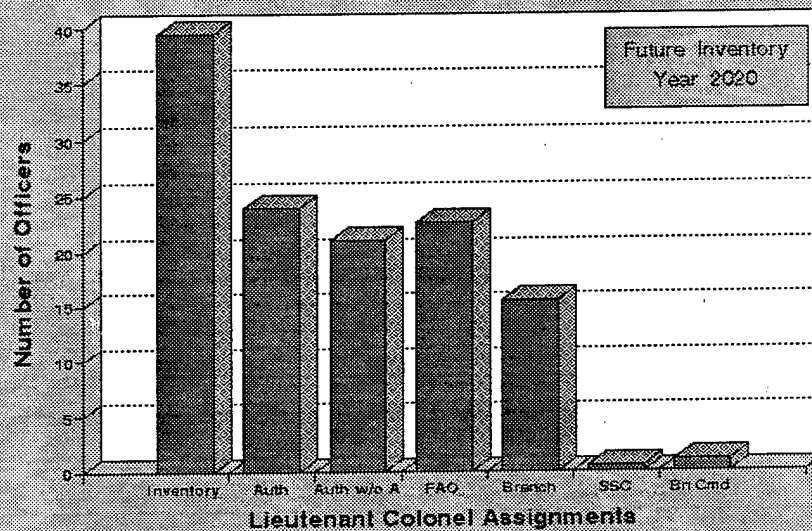
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
H	42.55	27	24	24.95	15.6	0.65	1.35

## Lieutenant Colonel Inventory Strategy 3 - AOC India



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
I	27.85	15	13	14.65	12.15	0.45	0.6

## Lieutenant Colonel Inventory Strategy 3 - AOC Juliet

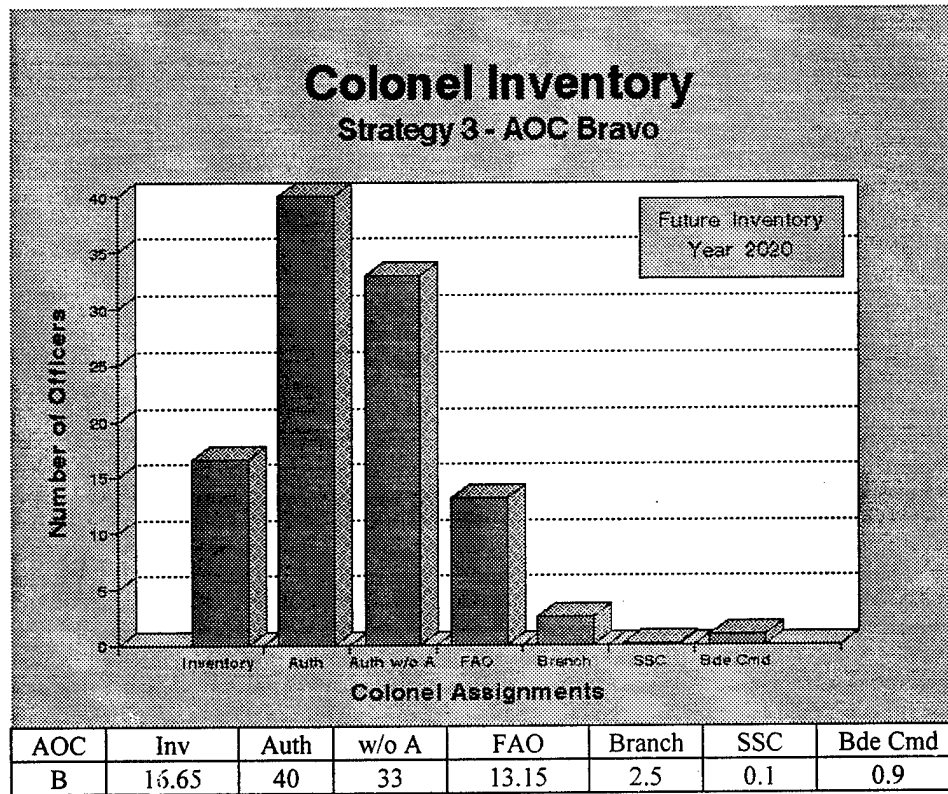


AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
J	39.45	24	21	22.5	15.5	0.5	0.95

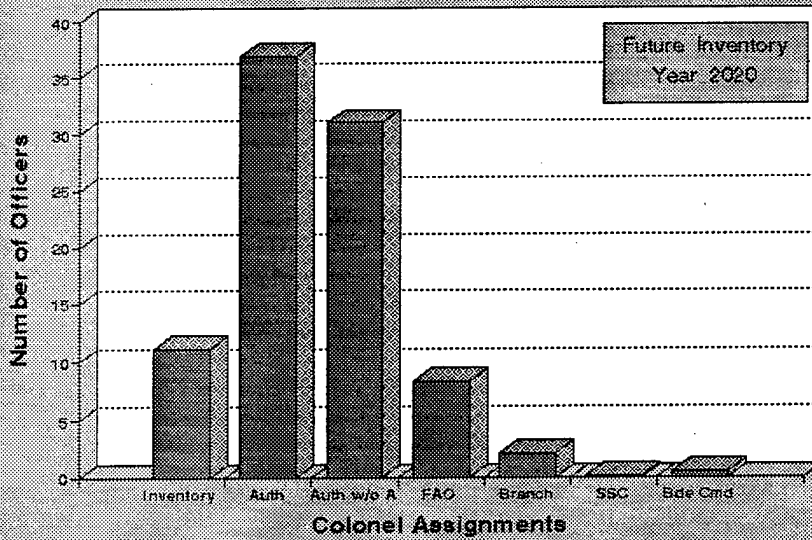
# COLONEL INVENTORIES

Summary: Strategy 3 Year 2020

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
B	16.65	40	33	13.15	2.5	0.1	0.9
C	11.1	37	31	8.4	2.1	0.15	0.45
D	2.95	2	2	1.45	1.4	0	0.1
E	14.2	26	22	11.6	2.25	0	0.35
F	3.75	4	3	2.75	0.8	0.1	0.1
G	13.1	33	27	10.65	2.25	0	0.2
H	7.75	5	4	4.25	3.35	0	0.15
I	4.75	11	9	3.9	0.7	0.05	0.1
J	7	10	8	5.55	1.2	0	0.25

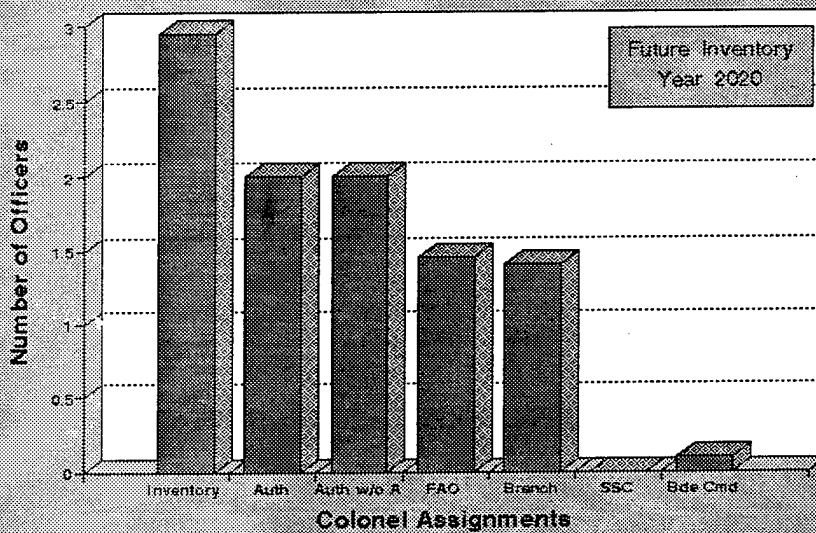


## Colonel Inventory Strategy 3 - AOC Charlie



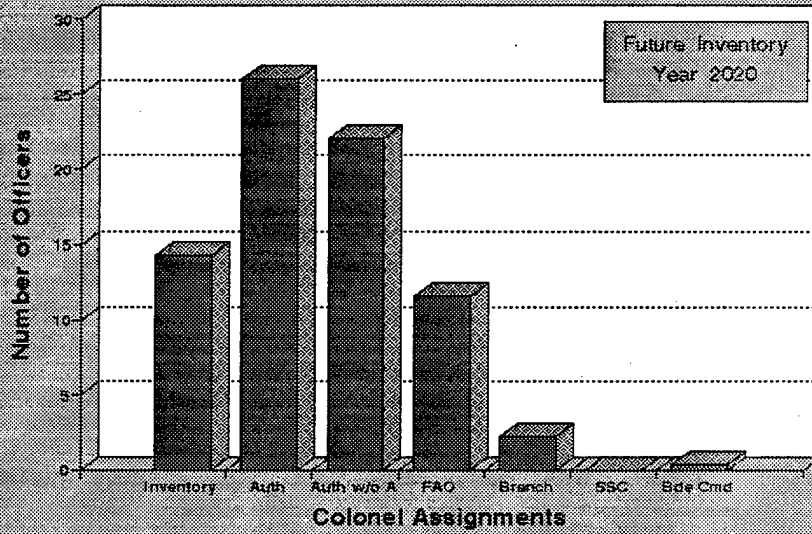
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
C	11.1	37	31	8.4	2.1	0.15	0.45

## Colonel Inventory Strategy 3 - AOC Delta



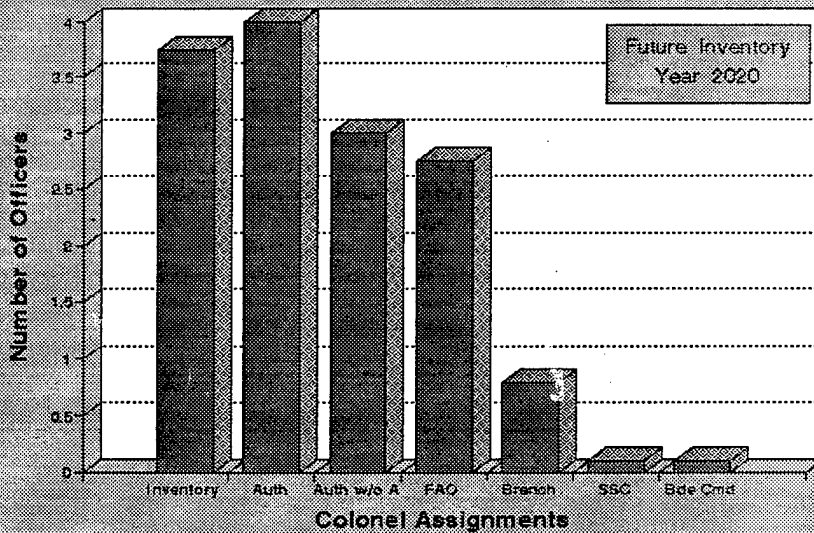
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
D	2.95	2	2	1.45	1.4	0	0.1

## Colonel Inventory Strategy 3 - AOC Echo



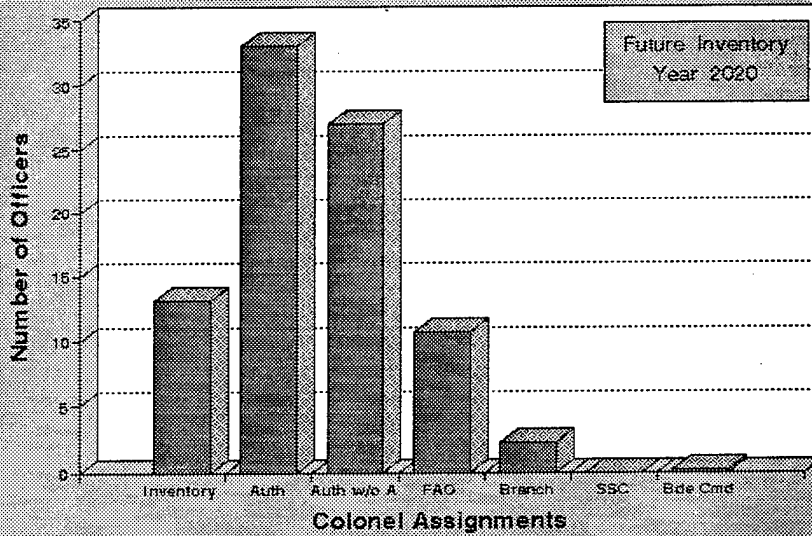
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
E	14.2	26	22	11.6	2.25	0	0.35

## Colonel Inventory Strategy 3 - AOC Foxtrot



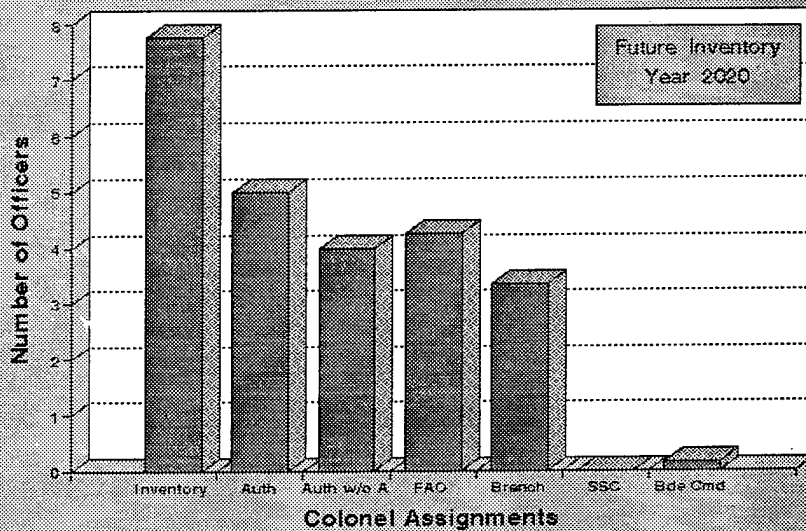
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
F	3.75	4	3	2.75	0.8	0.1	0.1

## Colonel Inventory Strategy 3 - AOC Golf



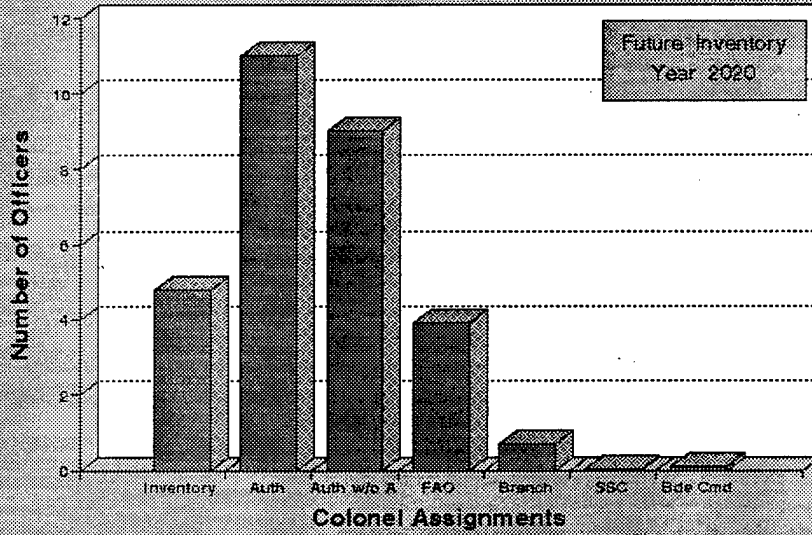
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
G	13.1	33	27	10.65	2.25	0	0.2

## Colonel Inventory Strategy 3 - AOC Hotel



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
H	7.75	5	4	4.25	3.35	0	0.15

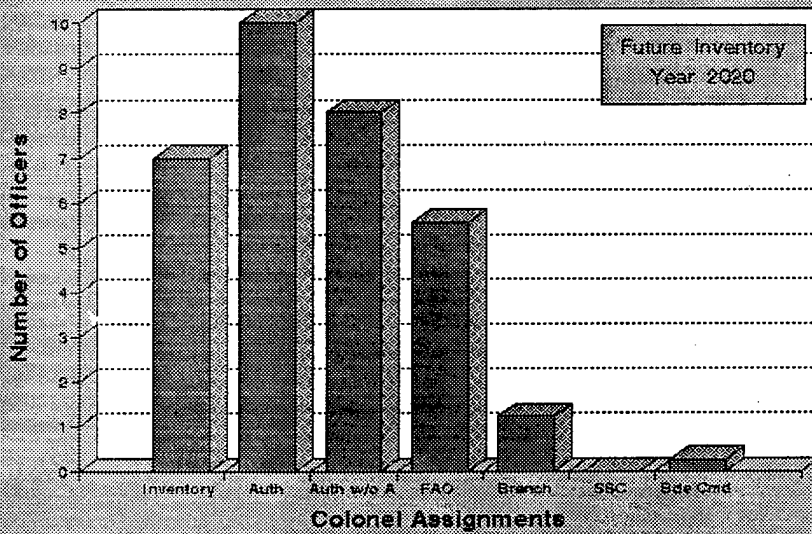
## Colonel Inventory Strategy 3 - AOC India



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
I	4.75	11	9	3.9	0.7	0.05	0.1

J

## Colonel Inventory Strategy 3 - AOC Juliet

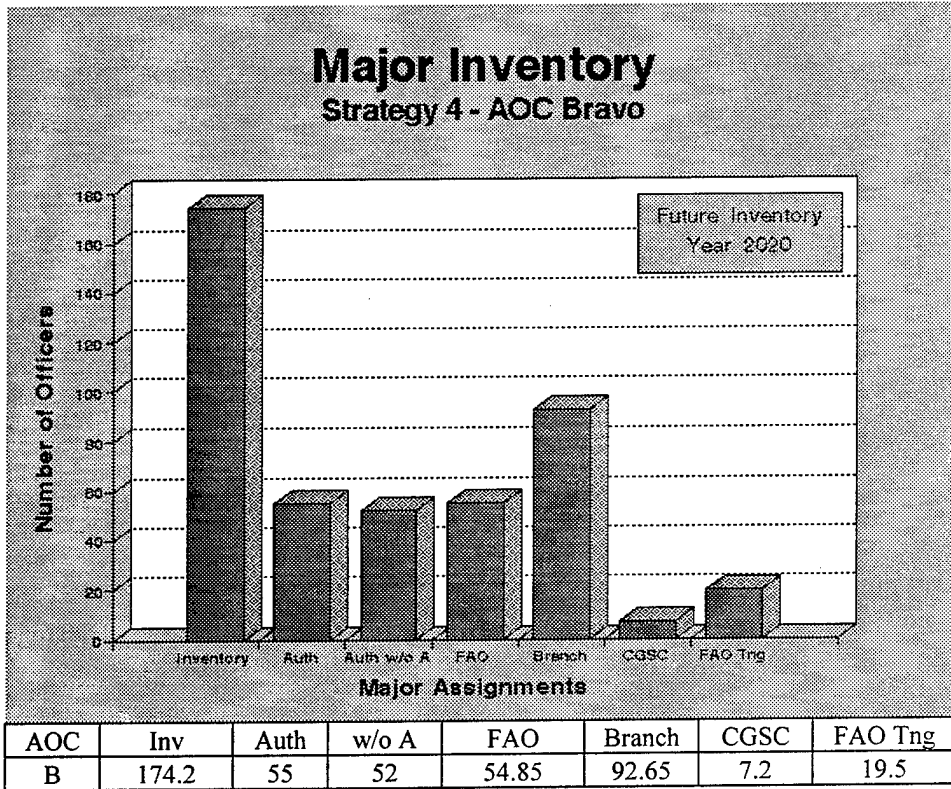


AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
J	7	10	8	5.55	1.2	0	0.25

# MAJOR INVENTORIES

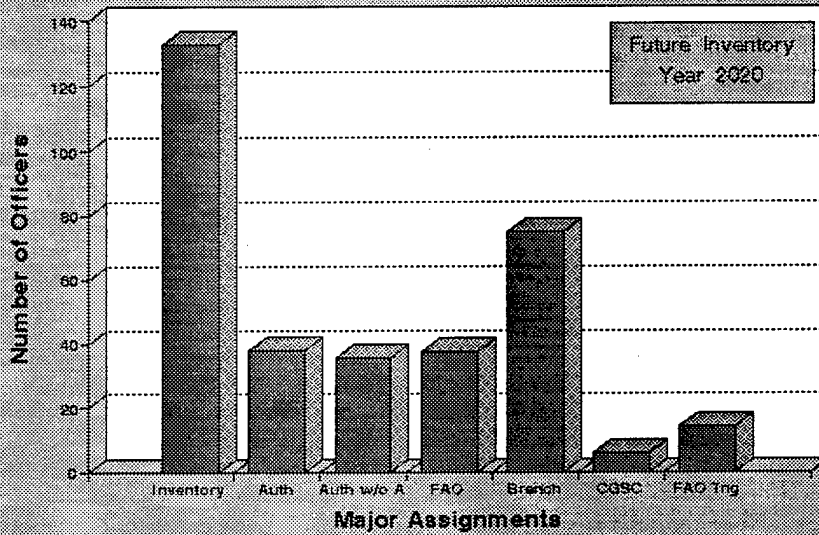
Summary: Strategy 4 Year 2020

AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
B	174.2	55	52	54.85	92.65	7.2	19.5
C	132.35	38	36	37.7	74.8	5.7	14.15
D	35.95	8	8	8	21.3	2.55	4.1
E	170.6	80	76	78.85	67.7	6.55	17.5
F	44.95	16	15	15.55	21.9	1.95	5.55
G	163.5	64	61	63.85	76.65	6.4	16.6
H	68.3	24	23	23.5	33.9	3.5	7.4
I	51.15	10	10	10	33.7	2.25	5.2
J	64.8	19	18	18.6	36.25	2.95	7



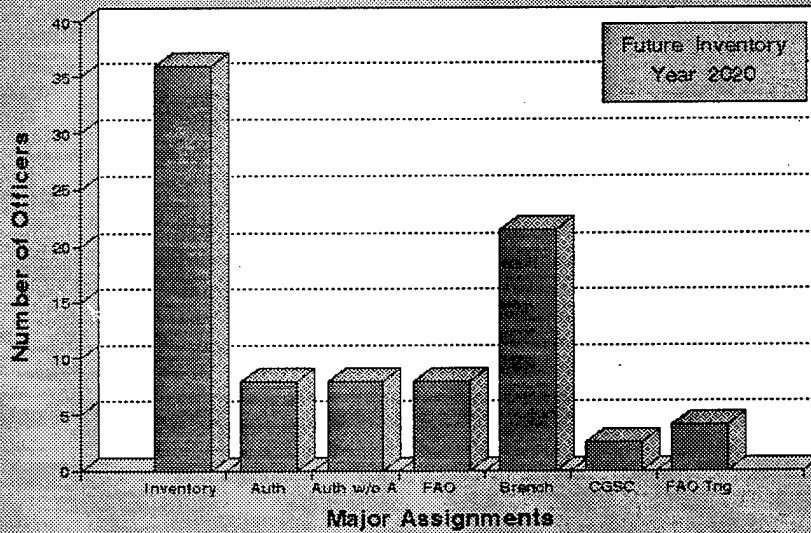


## Major Inventory Strategy 4 - AOC Charlie



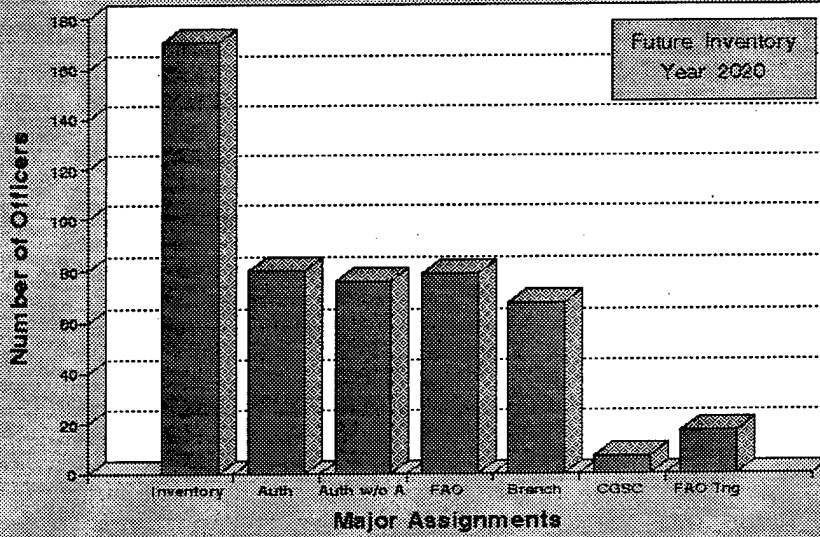
AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
C	132.35	38	36	37.7	74.8	5.7	14.15

## Major Inventory Strategy 4 - AOC Delta



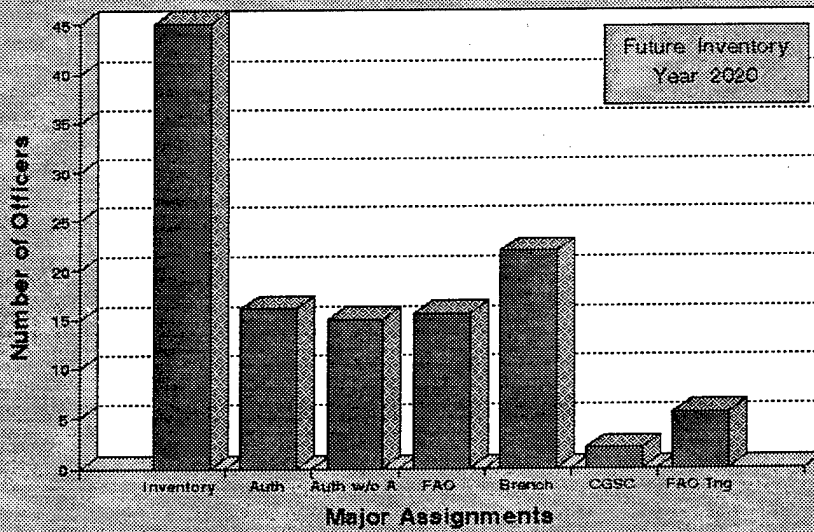
AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
D	35.95	8	8	8	21.3	2.55	4.1

## Major Inventory Strategy 4 - AOC Echo



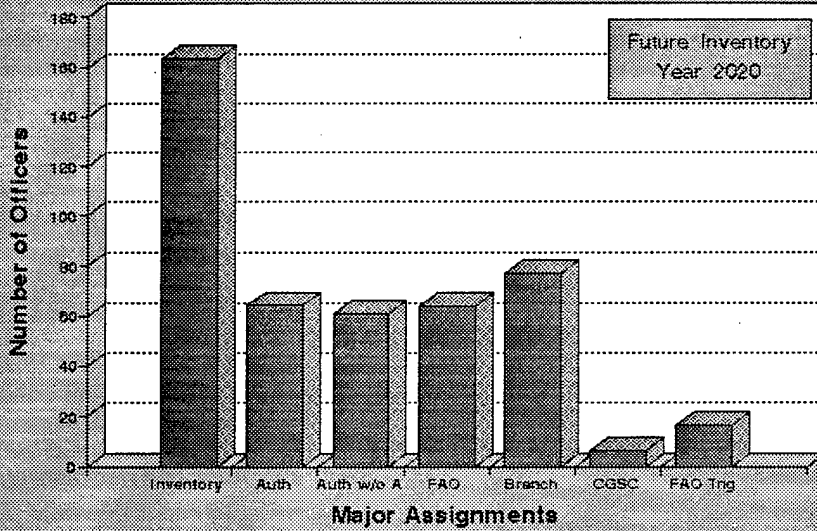
AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
E	170.6	80	76	78.85	67.7	6.55	17.5

## Major Inventory Strategy 4 - AOC Foxtrot



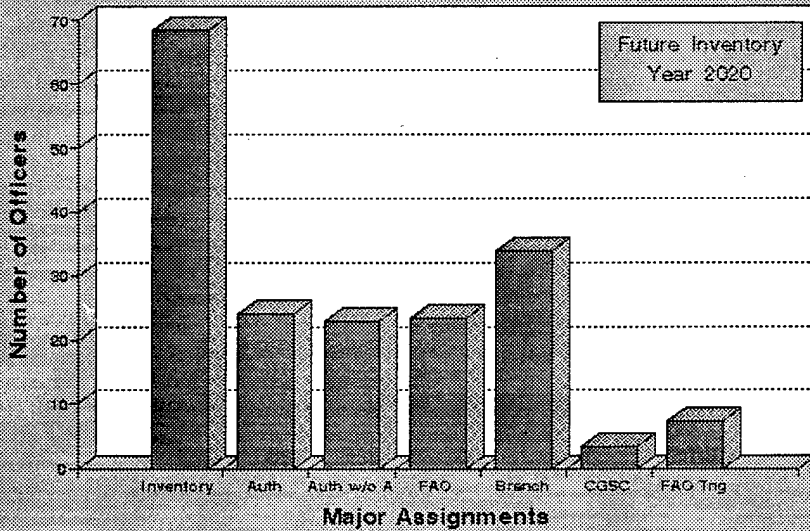
AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
F	44.95	16	15	15.55	21.9	1.95	5.55

## Major Inventory Strategy 4 - AOC Golf



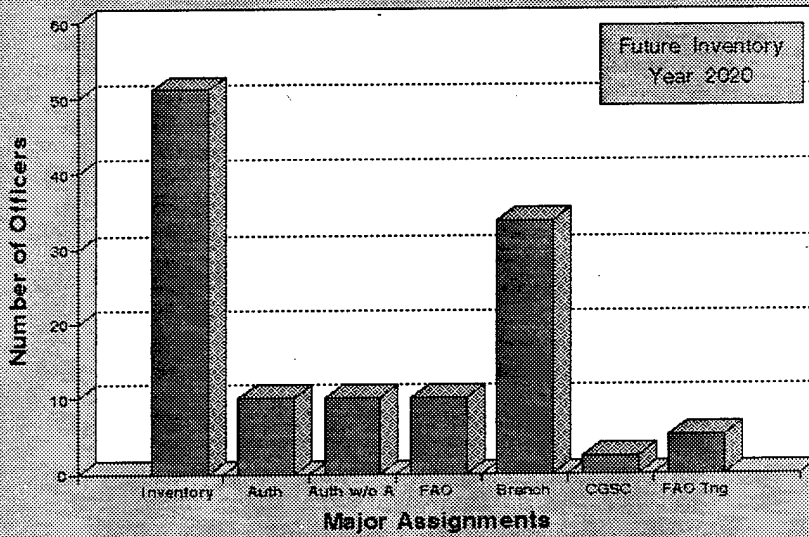
AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
G	163.5	64	61	63.85	76.65	6.4	16.6

## Major Inventory Strategy 4 - AOC Hotel



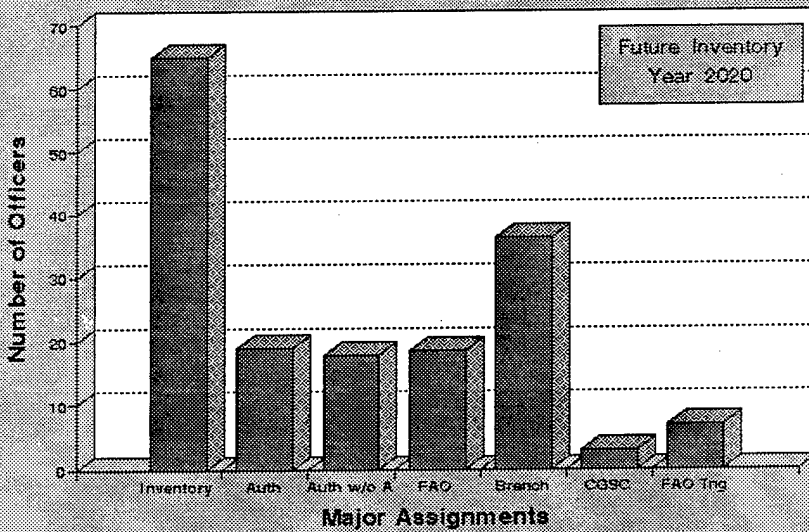
AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
H	68.3	24	23	23.5	33.9	3.5	7.4

## Major Inventory Strategy 4 - AOC India



AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
I	51.15	10	10	10	33.7	2.25	5.2

## Major Inventory Strategy 4 - AOC Juliet

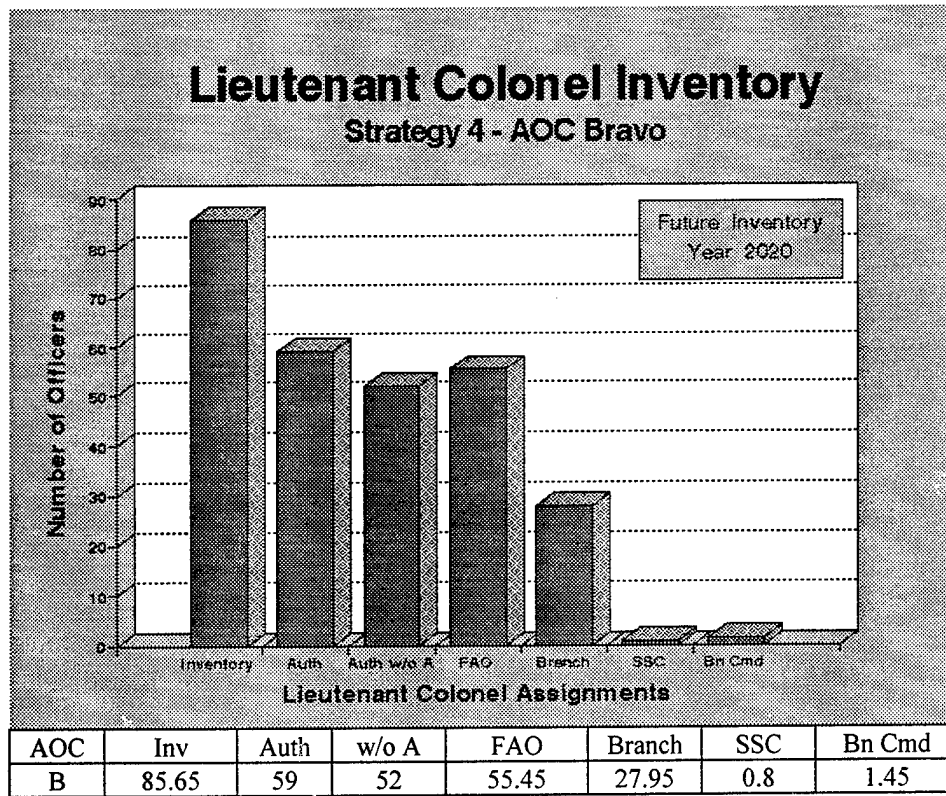


AOC	Inv	Auth	w/o A	FAO	Branch	CGSC	FAO Tng
J	64.8	19	18	18.6	36.25	2.95	7

# LIEUTENANT COLONEL INVENTORIES

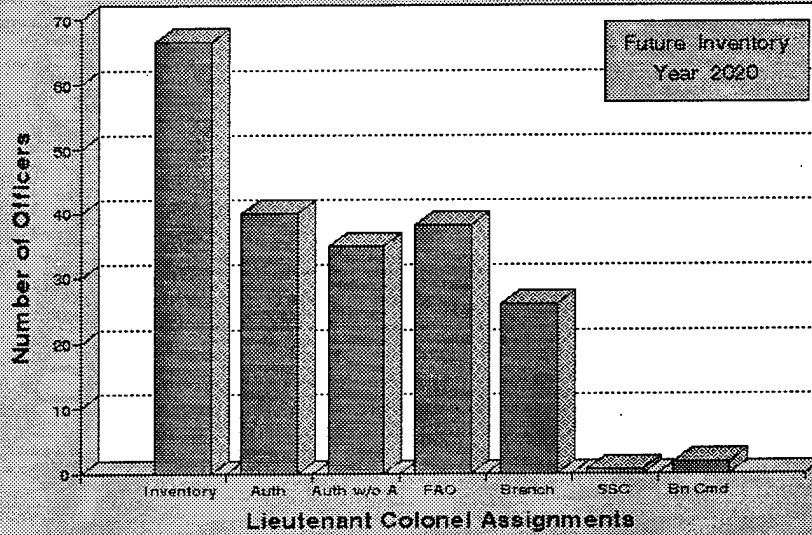
Summary: Strategy 4 Year 2020

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
B	85.65	59	52	55.45	27.95	0.8	1.45
C	66.55	40	35	38.15	26.05	0.65	1.7
D	18.2	11	10	9.7	7.65	0.2	0.65
E	84.65	58	51	54.65	26.65	1.1	2.25
F	23.6	11	10	10.35	12.4	0.25	0.6
G	81.75	51	45	47.65	31.7	0.7	1.7
H	32.65	27	24	23.4	8.25	0.15	0.85
I	26.05	15	13	14	10.6	0.25	1.2
J	33.9	24	21	22.3	10.65	0.45	0.5



## Lieutenant Colonel Inventory

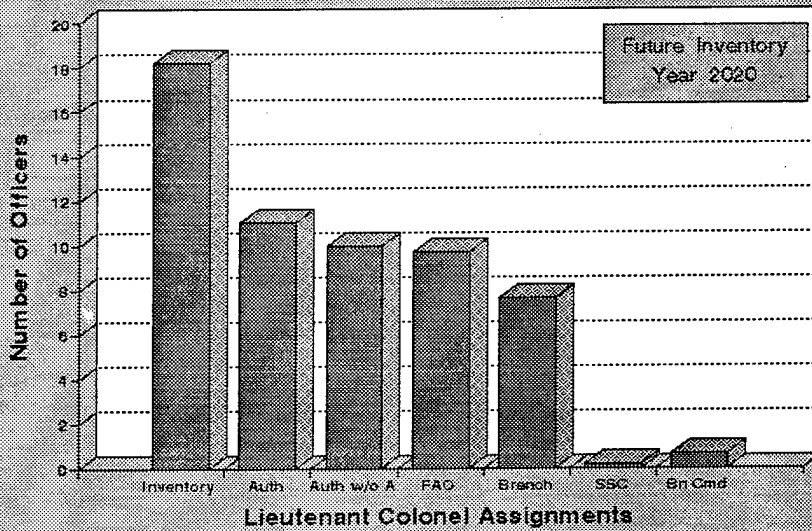
### Strategy 4 - AOC Charlie



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
C	66.55	40	35	38.15	26.05	0.65	1.7

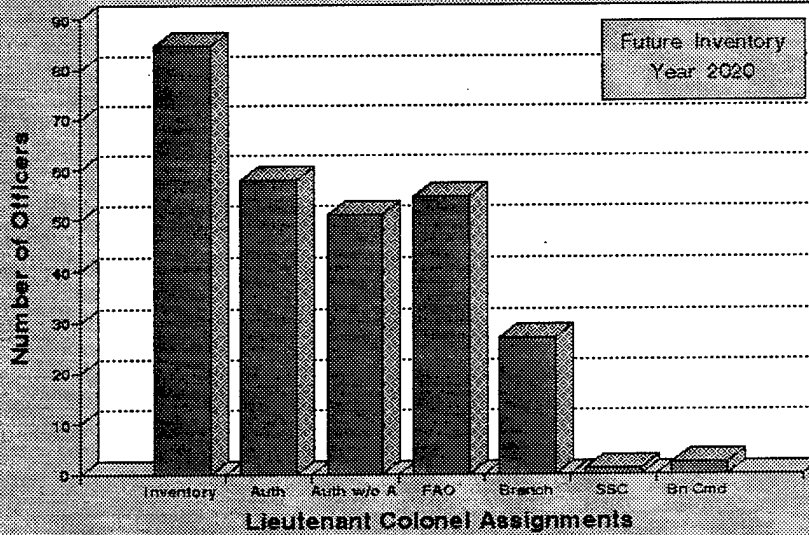
## Lieutenant Colonel Inventory

### Strategy 4 - AOC Delta



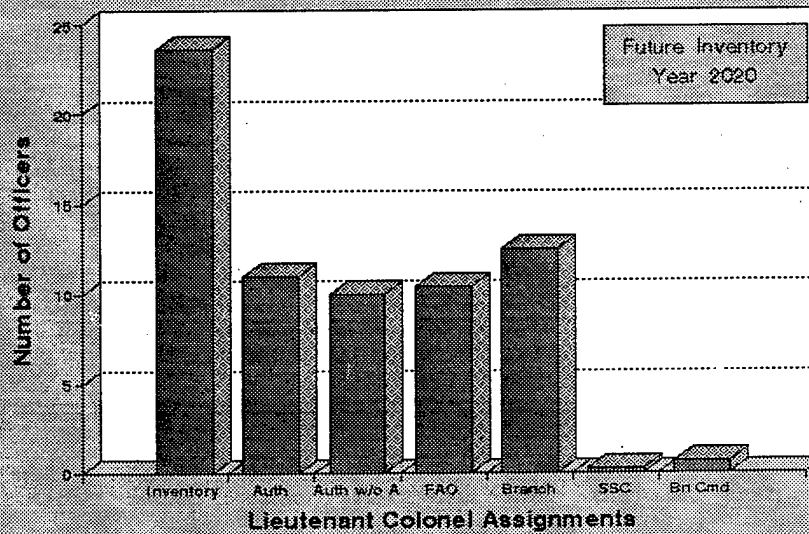
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
D	18.2	11	10	9.7	7.65	0.2	0.65

## Lieutenant Colonel Inventory Strategy 4 - AOC Echo



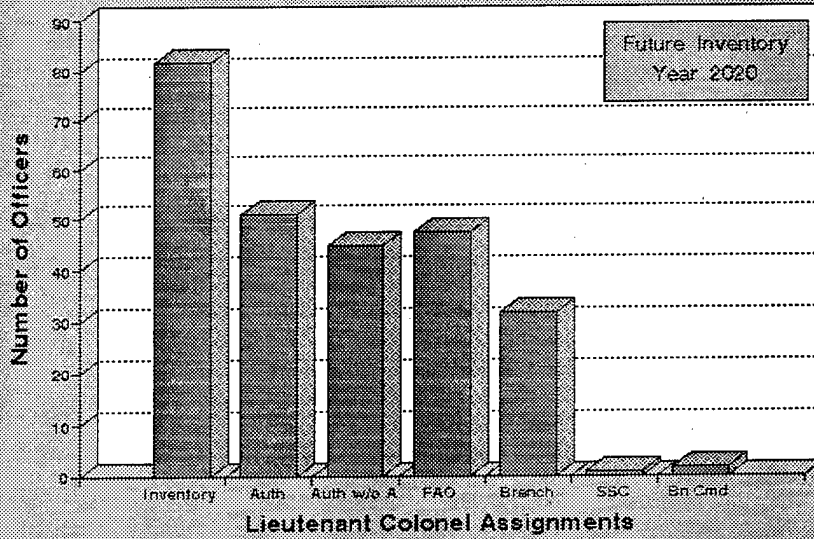
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
E	84.65	58	51	54.65	26.65	1.1	2.25

## Lieutenant Colonel Inventory Strategy 4 - AOC Foxtrot



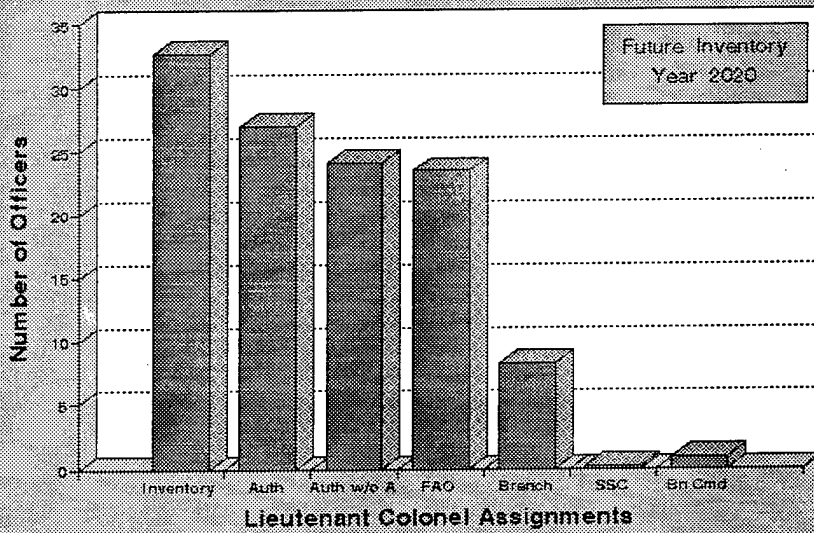
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
F	23.6	11	10	10.35	12.4	0.25	0.6

## Lieutenant Colonel Inventory Strategy 4 - AOC Golf



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
G	81.75	51	45	47.65	31.7	0.7	1.7

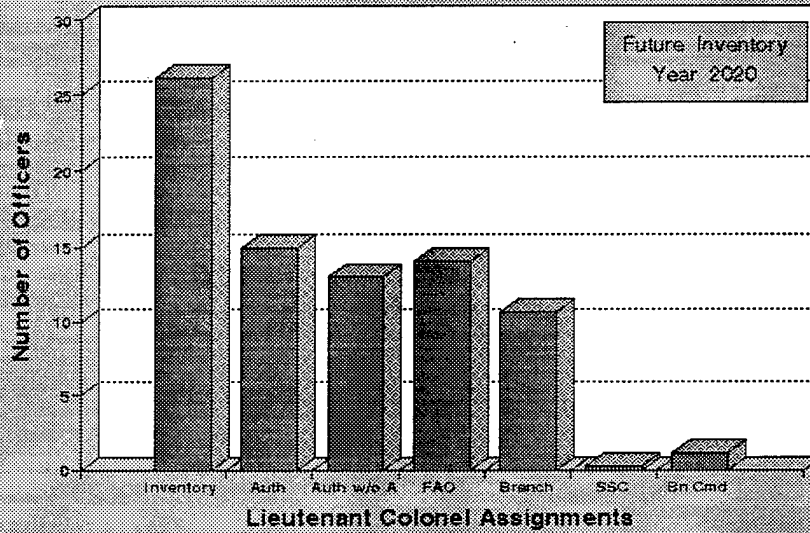
## Lieutenant Colonel Inventory Strategy 4 - AOC Hotel



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
H	32.65	27	24	23.4	8.25	0.15	0.85

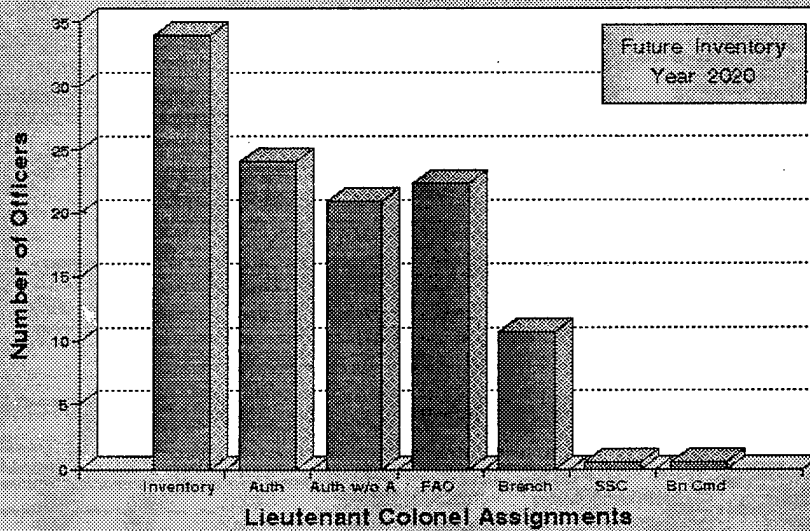


## Lieutenant Colonel Inventory Strategy 4 - AOC India



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
I	26.05	15	13	14	10.6	0.25	1.2

## Lieutenant Colonel Inventory Strategy 4 - AOC Juliet

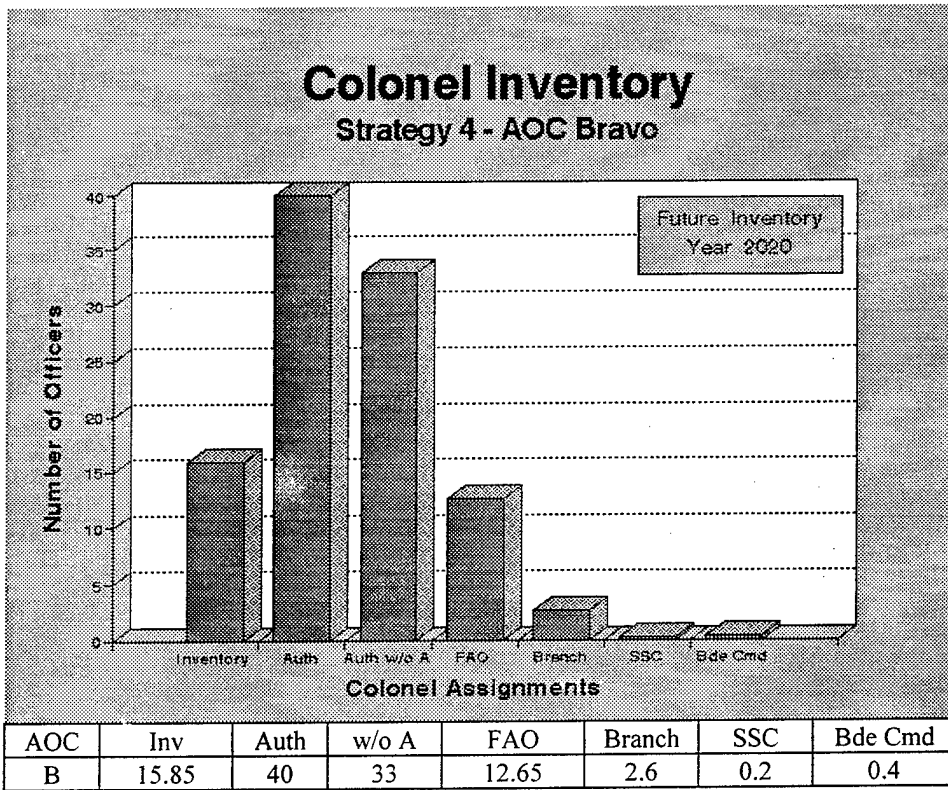


AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bn Cmd
J	33.9	24	21	22.3	10.65	0.45	0.5

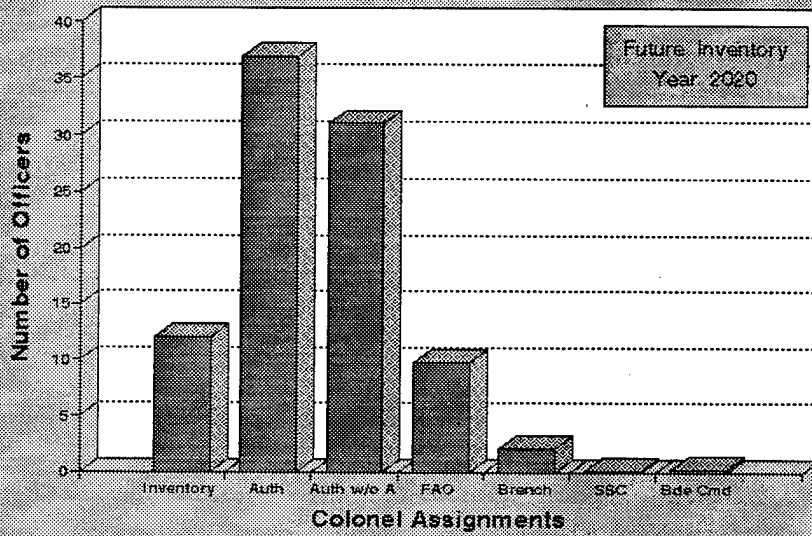
# COLONEL INVENTORIES

Summary: Strategy 4 Year 2020

AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
B	15.85	40	33	12.65	2.6	0.2	0.4
C	12.05	37	31	9.75	2.05	0.05	0.2
D	3.35	2	2	1.45	1.85	0	0.05
E	16.3	26	22	13.4	2.35	0.05	0.5
F	3.8	4	3	2.7	1	0	0.1
G	14.5	33	27	11.4	2.75	0.05	0.3
H	5.95	5	4	3.55	2.05	0	0.35
I	4.3	11	9	3.7	0.5	0.05	0.05
J	6.2	10	8	4.9	1.15	0	0.15

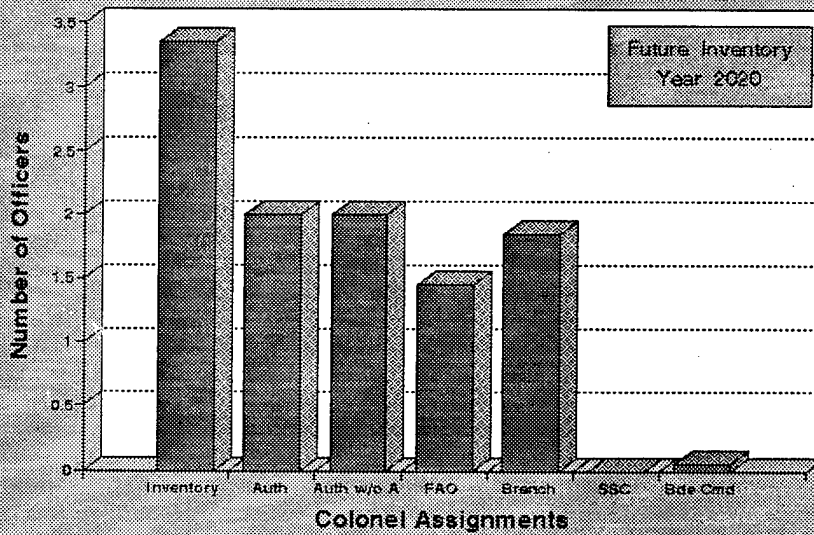


## Colonel Inventory Strategy 4 - AOC Charlie



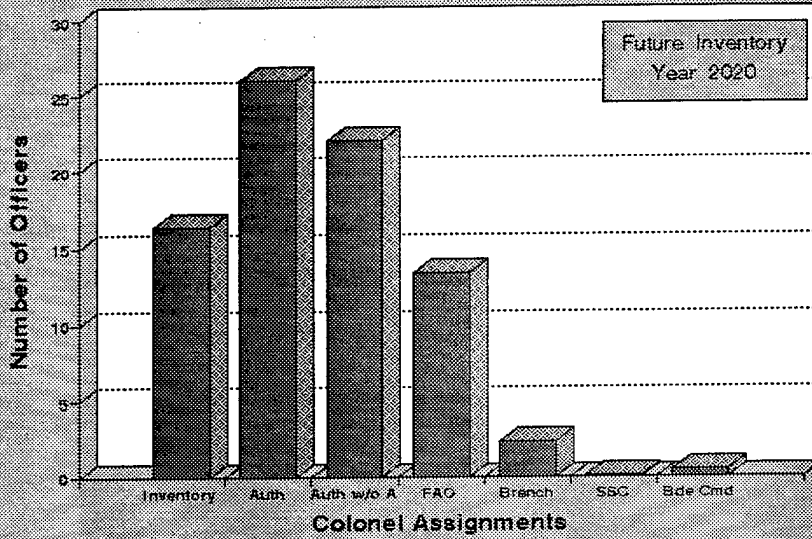
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
C	12.05	37	31	9.75	2.05	0.05	0.2

## Colonel Inventory Strategy 4 - AOC Delta



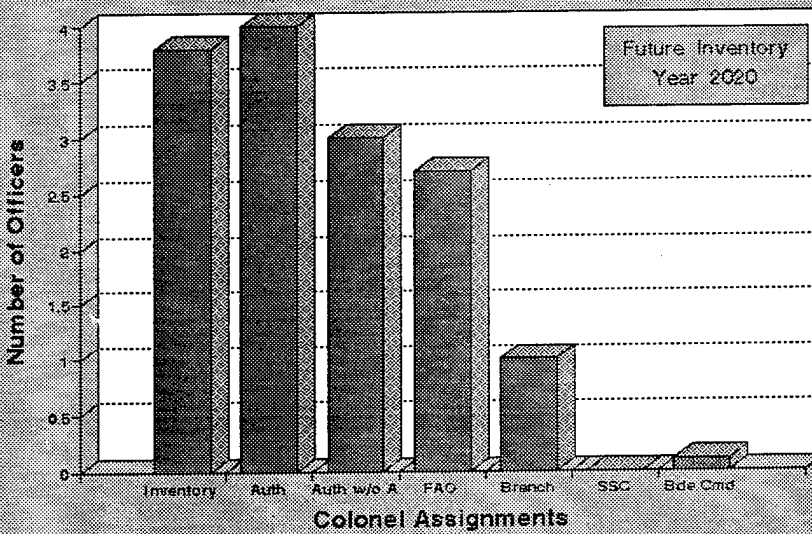
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
D	3.35	2	2	1.45	1.85	0	0.05

## Colonel Inventory Strategy 4 - AOC Echo



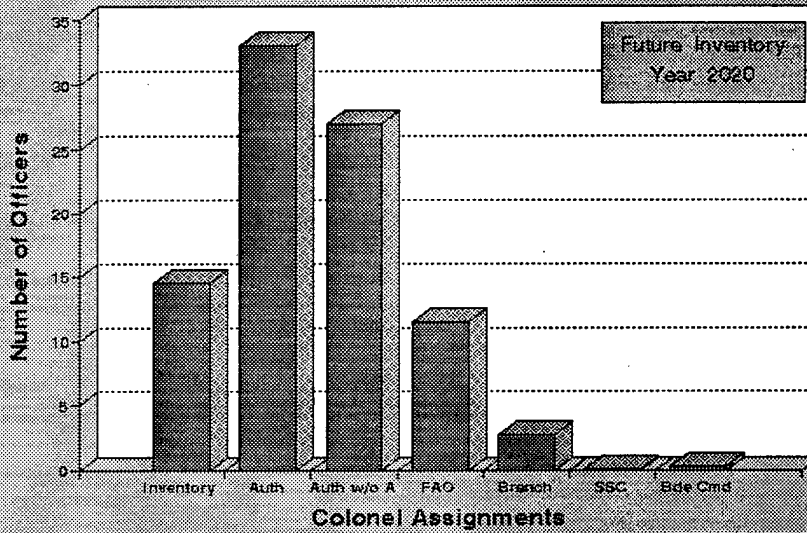
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
E	16.3	26	22	13.4	2.35	0.05	0.5

## Colonel Inventory Strategy 4 - AOC Foxtrot



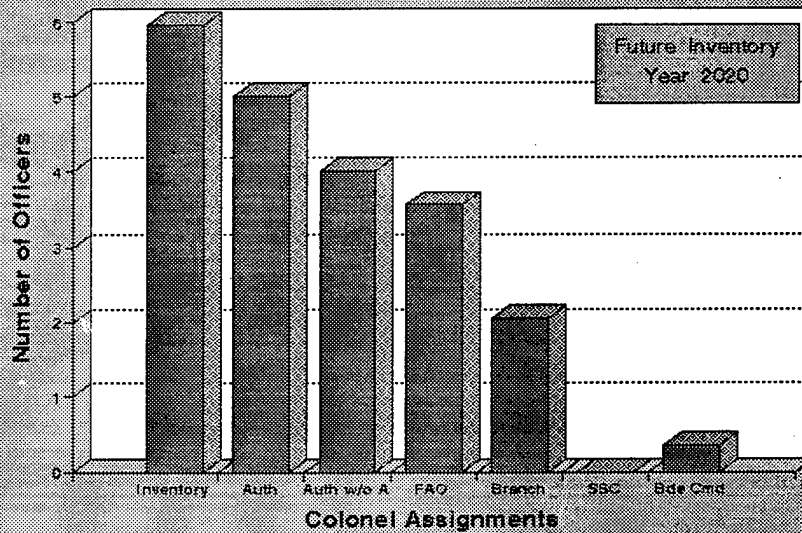
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
F	3.8	4	3	2.7	1	0	0.1

## Colonel Inventory Strategy 4 - AOC Golf



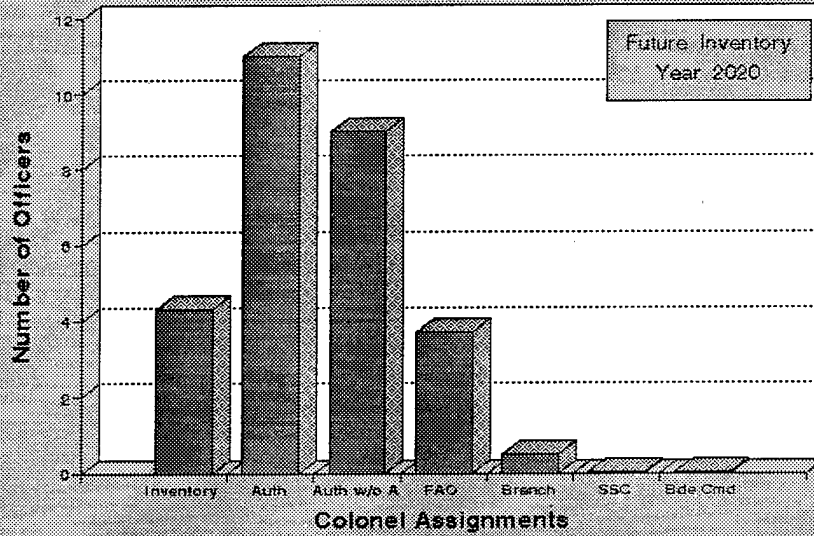
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
G	14.5	33	27	11.4	2.75	0.05	0.3

## Colonel Inventory Strategy 4 - AOC Hotel



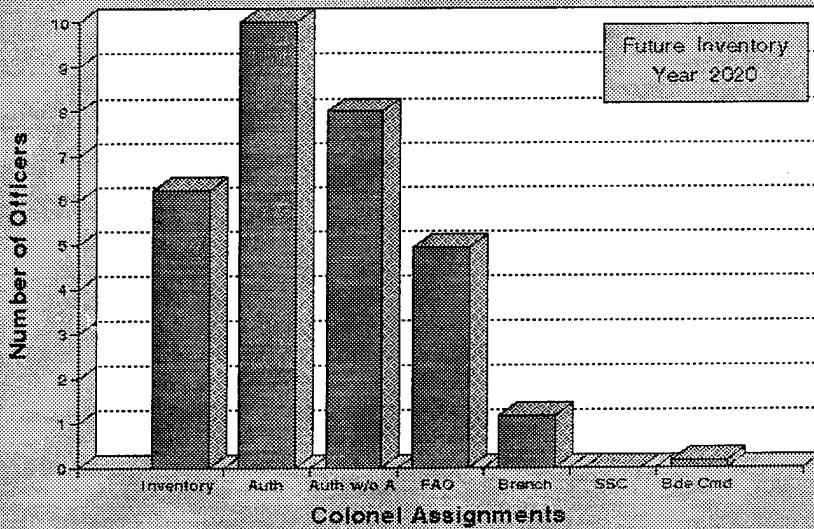
AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
H	5.95	5	4	3.55	2.05	0	0.35

## Colonel Inventory Strategy 4 - AOC India



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
I	4.3	11	9	3.7	0.5	0.05	0.05

## Colonel Inventory Strategy 4 - AOC Juliet



AOC	Inv	Auth	w/o A	FAO	Branch	SSC	Bde Cmd
J	6.2	10	8	4.9	1.15	0	0.15

## Appendix B. Output Analysis

The table below lists the mean inventories of majors for each AOC and strategy. The lower and upper points of the confidence intervals are listed under the Low and High columns. These interval estimates follow the procedures outlined in Discrete-Event System Simulation by Banks and Carson.

AOC	Strategy	Majors			
		Low	Mean	High	Std Dev
B	1	151.86	155.50	159.14	7.7900
	2	202.69	207.80	212.91	10.9381
	3	169.72	174.00	178.28	9.1594
	4	170.82	174.20	177.58	7.2301
C	1	105.73	109.30	112.87	7.6303
	2	184.36	188.05	191.74	7.8972
	3	125.39	128.15	130.91	5.8963
	4	129.18	132.35	135.52	6.7845
D	1	32.04	33.65	35.26	3.4531
	2	19.36	21.65	23.94	4.9019
	3	38.00	40.25	42.50	4.8218
	4	34.17	35.95	37.73	3.8041
E	1	207.64	211.85	216.06	9.0162
	2	119.58	123.20	126.82	7.7500
	3	159.03	164.00	168.97	10.6376
	4	166.95	170.60	174.25	7.8163
F	1	47.77	49.65	51.53	4.0167
	2	27.37	29.45	31.53	4.4423
	3	41.20	44.05	46.90	6.0998
	4	42.54	44.95	47.36	5.1552
G	1	166.89	170.75	174.61	8.2582
	2	162.71	166.00	169.29	7.0338
	3	143.92	147.35	150.78	7.3361
	4	159.27	163.50	167.73	9.0525
H	1	69.19	71.80	74.41	5.5782
	2	34.58	36.80	39.02	4.7528
	3	80.48	82.60	84.72	4.5352
	4	65.32	68.30	71.28	6.3834
I	1	38.86	40.95	43.04	4.4777
	2	59.04	61.25	63.46	4.7337
	3	48.23	50.10	51.97	4.0118
	4	48.59	51.15	53.71	5.4703
J	1	58.20	61.15	64.10	6.3018
	2	59.43	61.80	64.17	5.0742
	3	73.42	75.95	78.48	5.4142
	4	61.74	64.80	67.86	6.5502

The table below lists the mean inventories of lieutenant colonels for each AOC and strategy. The lower and upper points of the confidence intervals are listed under the Low and High columns. These interval estimates follow the procedures outlined in Discrete-Event System Simulation by Banks and Carson.


Lieutenant Colonels					
AOC	Strategy	Low	Mean	High	Std Dev
B	1	73.02	76.55	80.08	7.5497
	2	100.75	104.65	108.55	8.3494
	3	81.33	85.70	90.07	9.3420
	4	81.39	85.65	89.91	9.1091
C	1	53.51	56.60	59.69	6.6046
	2	89.43	93.45	97.47	8.6113
	3	63.17	65.80	68.43	5.6345
	4	64.36	66.55	68.74	4.6957
D	1	16.81	19.00	21.19	4.6792
	2	11.16	12.45	13.74	2.7621
	3	18.70	20.60	22.50	4.0575
	4	16.30	18.20	20.10	4.0601
E	1	100.85	103.90	106.95	6.5365
	2	62.27	64.20	66.13	4.1371
	3	76.68	80.40	84.12	7.9631
	4	81.55	84.65	87.75	6.6354
F	1	23.40	26.00	28.60	5.5630
	2	14.73	16.15	17.57	3.0310
	3	21.52	23.75	25.98	4.7780
	4	21.75	23.60	25.45	3.9656
G	1	81.75	85.45	89.15	7.9238
	2	77.23	81.95	86.67	10.1020
	3	67.58	71.20	74.82	7.7364
	4	78.88	81.75	84.62	6.1377
H	1	32.99	35.65	38.31	5.6872
	2	16.42	18.70	20.98	4.8785
	3	39.74	42.55	45.36	6.0042
	4	30.34	32.65	34.96	4.9447
I	1	18.43	20.15	21.87	3.6889
	2	27.91	30.10	32.29	4.6781
	3	25.33	27.85	30.37	5.4025
	4	23.52	26.05	28.58	5.4044
J	1	29.05	31.65	34.25	5.5562
	2	29.11	31.45	33.79	5.0103
	3	37.65	39.45	41.25	3.8590
	4	32.24	33.90	35.56	3.5526



The table below lists the mean inventories of colonels for each AOC and strategy. The lower and upper points of the confidence intervals are listed under the Low and High columns. These interval estimates follow the procedures outlined in Discrete-Event System Simulation by Banks and Carson.

AOC	Strategy	Colonels			
		Low	Mean	High	Std Dev
B	1	12.15	14.45	16.75	4.9255
	2	16.98	18.95	20.92	4.2237
	3	15.19	16.65	18.11	3.1166
	4	14.29	15.85	17.41	3.3289
C	1	8.30	9.90	11.50	3.4320
	2	13.76	15.85	17.94	4.4754
	3	9.13	11.10	13.07	4.2165
	4	10.64	12.05	13.46	3.0171
D	1	1.77	2.55	3.33	1.6694
	2	1.11	1.90	2.69	1.6827
	3	2.33	2.95	3.57	1.3169
	4	2.45	3.35	4.25	1.9270
E	1	16.86	19.05	21.24	4.6845
	2	10.11	11.45	12.79	2.8741
	3	12.41	14.20	15.99	3.8196
	4	15.22	16.30	17.38	2.3193
F	1	3.98	5.15	6.32	2.4979
	2	2.93	3.60	4.27	1.4290
	3	3.21	3.75	4.29	1.1642
	4	2.87	3.80	4.73	1.9894
G	1	14.14	15.70	17.26	3.3419
	2	15.12	16.75	18.38	3.4774
	3	11.40	13.10	14.80	3.6404
	4	13.25	14.50	15.75	2.6852
H	1	5.08	6.20	7.32	2.3974
	2	3.39	4.25	5.11	1.8317
	3	6.65	7.75	8.85	2.3592
	4	4.81	5.95	7.09	2.4382
I	1	3.68	4.50	5.32	1.7622
	2	3.40	4.75	6.10	2.8814
	3	3.88	4.75	5.62	1.8602
	4	3.59	4.30	5.01	1.5252
J	1	6.14	7.50	8.86	2.9110
	2	5.71	6.85	7.99	2.4339
	3	5.14	7.00	8.86	3.9736
	4	5.02	6.20	7.38	2.5257

## Appendix C. Briefing Slides



Operations Research Center  
United States Military Academy  
West Point, New York 10996

**FAO Life Cycle Model**

Sponsor: Foreign Area Officer Proponent Office  
Office of the Deputy Chief of Staff for Operations


Analyst: CPT Peter N. Courtois  
Operations Research Center  
United States Military Academy

**A Valuable Asset**

"It was our great fortune to have on hand a team of officers who have devoted themselves to the Middle East region... Without them, my job would have been considerably more difficult."

GEN H. Norman Schwarzkopf

Now, in light of significant changes in the world order, what are the new requirements for FAOs?




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**FAO Analysis Tasking**

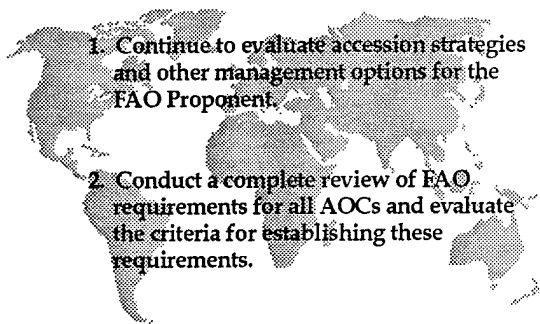
- I read thoroughly (FAO Newsletter)
- 'Down the road' . . . have the FAO Proponent Chief AO come in and discuss the 'health/status' . . . directions to support the evolving strategy. BIG responsibility for FAOs in years ahead... ; they are key to stability."

LTG Peay, DCSOPS



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## FY 92 Objectives



1. Continue to evaluate accession strategies and other management options for the FAO Proponent.
2. Conduct a complete review of FAO requirements for all AOCs and evaluate the criteria for establishing these requirements.



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## Recommended Strategy

Distribute accessions across the AOCs based on the total number of authorizations.

<u>AOC</u>	<u># of Accessions</u>
B	29
C	21
D	4
E	30
F	6
G	28
H	10
I	7
J	10
	145



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## FAO Authorizations

	FY91	FY92	FY93	FY94	FY95	FY96
A						
MAJ	19	19	15	15	15	15
LTC	41	43	36	36	35	35
COL	30	31	31	31	29	29

Note: AOC Alpha requirements are distributed proportionally throughout all other AOCs.



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### FAO Authorizations

		FY91	FY92	FY93	FY94	FY95	FY96
B	MAJ	61	64	56	56	55	55
	LTC	67	64	62	63	59	59
	COL	40	39	40	40	40	40
C	MAJ	54	49	45	39	38	38
	LTC	54	53	44	41	40	40
	COL	40	40	38	38	37	37
D	MAJ	8	8	8	8	8	8
	LTC	12	12	11	11	11	11
	COL	2	2	2	2	2	2



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### FAO Authorizations

		FY91	FY92	FY93	FY94	FY95	FY96
E	MAJ	93	94	84	82	80	80
	LTC	79	77	65	61	58	58
	COL	30	29	29	29	26	26
F	MAJ	17	17	16	16	16	16
	LTC	8	7	11	11	11	11
	COL	4	4	4	4	4	4
G	MAJ	69	67	65	64	64	64
	LTC	53	57	53	52	51	51
	COL	31	33	33	33	33	33



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### FAO Authorizations

		FY91	FY92	FY93	FY94	FY95	FY96
H	MAJ	24	27	24	24	24	24
	LTC	30	29	28	28	27	27
	COL	5	5	5	5	5	5
I	MAJ	10	12	10	10	10	10
	LTC	15	14	15	15	15	15
	COL	11	11	11	11	11	11
J	MAJ	18	18	19	19	19	19
	LTC	27	27	27	24	24	24
	COL	10	10	10	10	10	10



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## **Appendix D. Simulation Code**

The Operations Research Center, USMA maintains the SLAM II simulation code of the FAO Life Cycle Model. Questions concerning the simulation code should be directed to:

Director  
Operations Research Center  
Department of Systems Engineering  
United States Military Academy  
West Point, New York 10996

## Appendix E. Distribution

<u>Agency</u>	<u>Copies</u>
1. Foreign Area Officer Proponent Office, Office of the Deputy Chief of Staff for Operations and Plans. (DAMO-SSF)	4