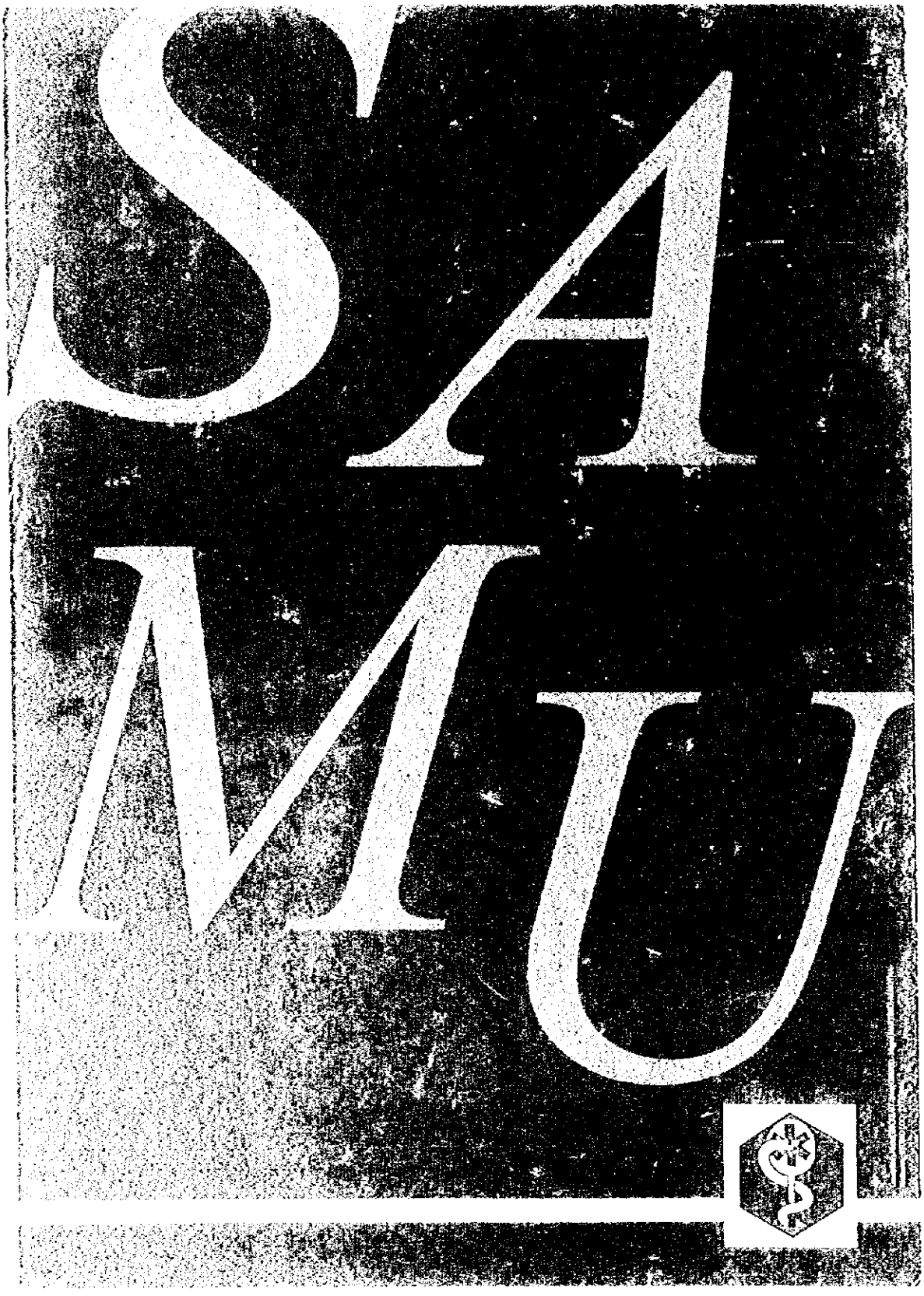
U.S. Agency for International Development
Bureau for Humanitarian Response
Office of U.S. Foreign Disaster Assistance

AN INTRODUCTION


SAMU

USAID

U.S. Agency for International Development
Bureau for Humanitarian Response
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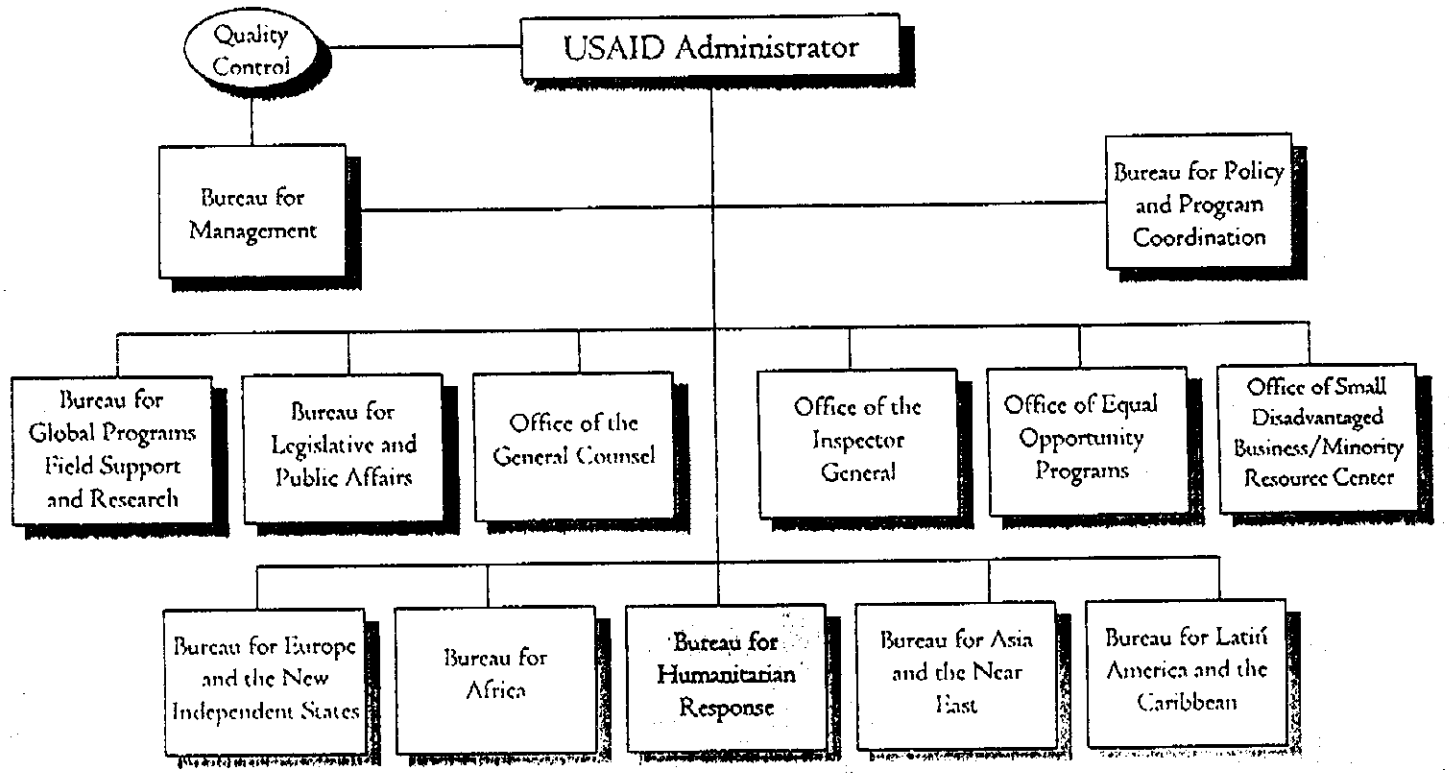
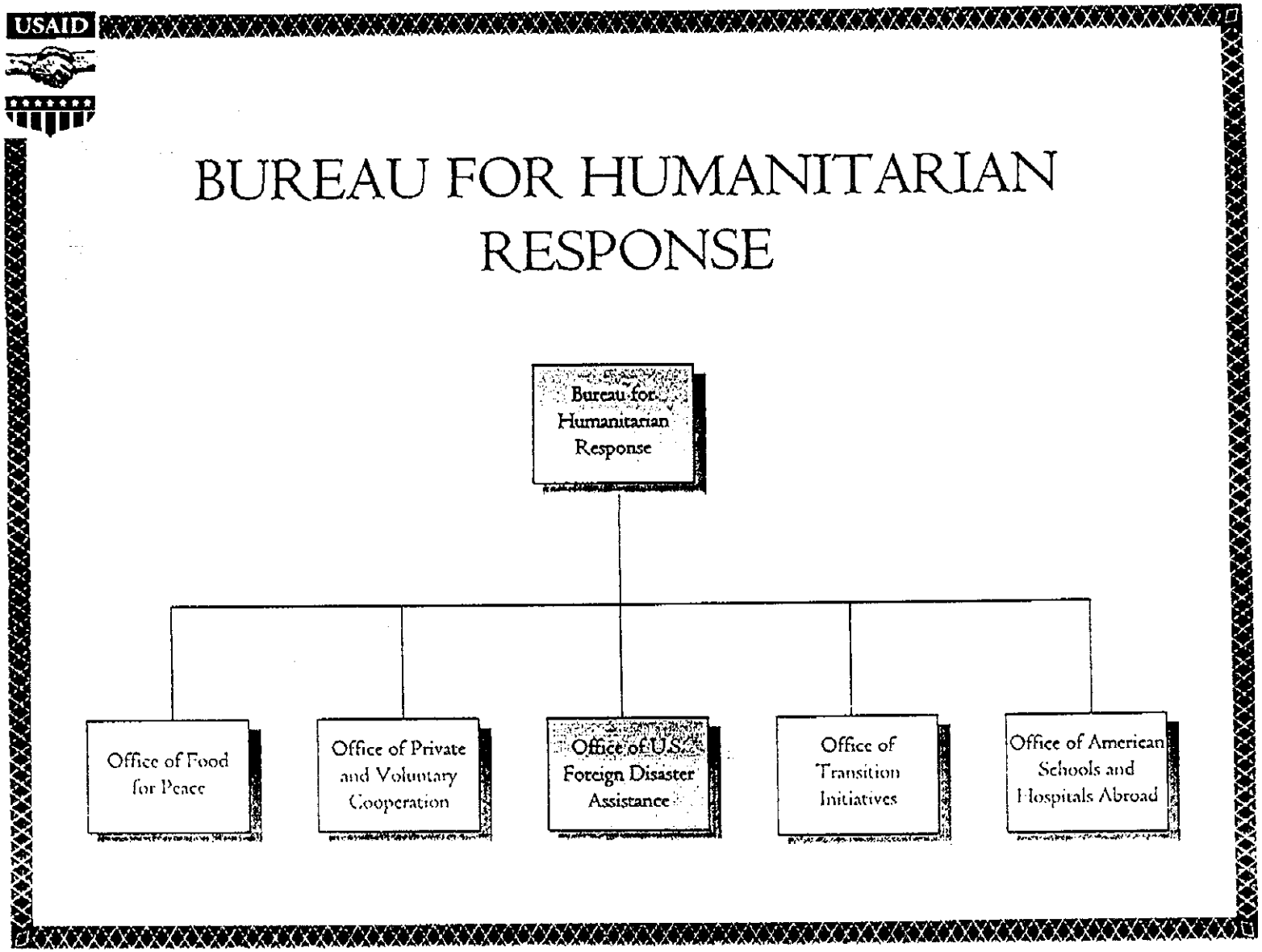
AN INTRODUCTION

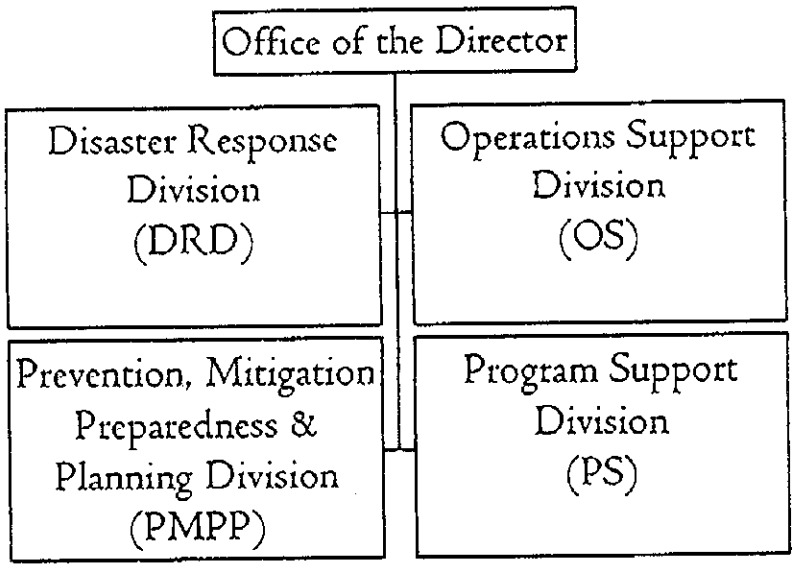
USAID

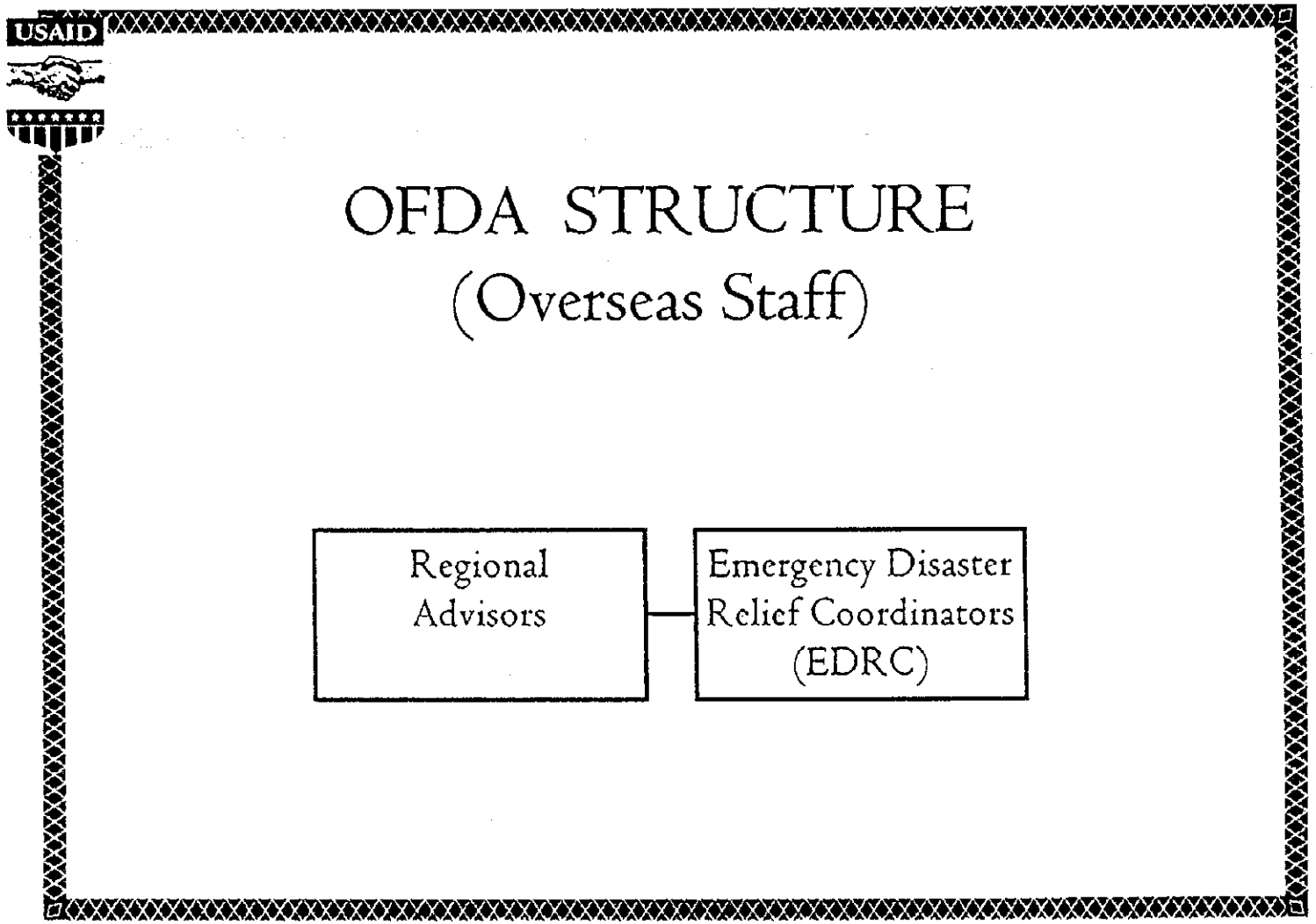
U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT




USAID
BUREAU FOR HUMANITARIAN RESPONSE
Bureau for Humanitarian Response
Office of Food for Peace
Office of Private and Voluntary Cooperation
Office of U.S. Foreign Disaster Assistance
Office of Transition Initiatives
Office of American Schools and Hospitals Abroad

OFDA STRUCTURE
(Washington Staff)




USAID
OFDA STRUCTURE
(Overseas Staff)
Regional Advisors
Emergency Disaster Relief Coordinators (EDRC)

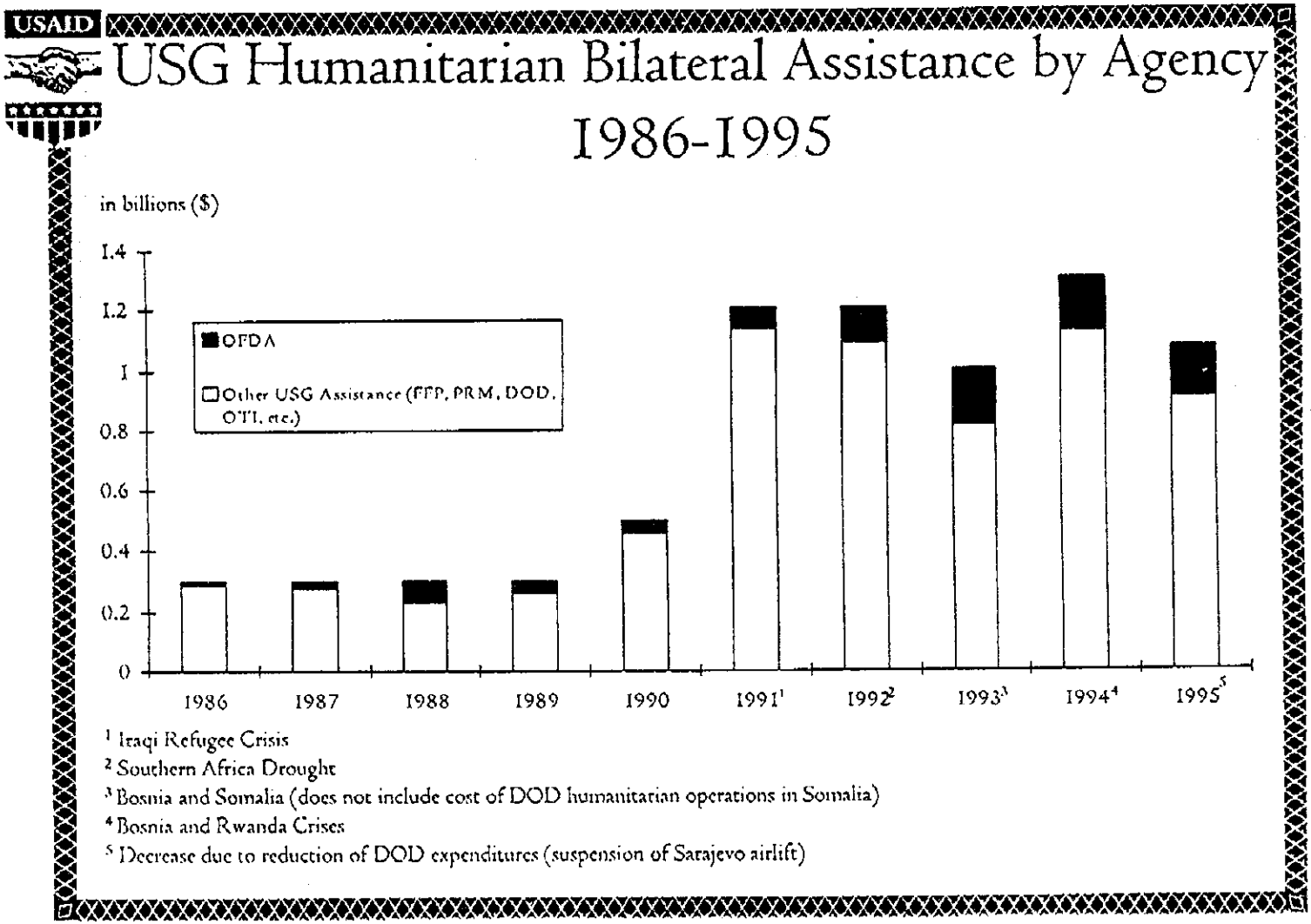
OFDA'S AUTHORITIES

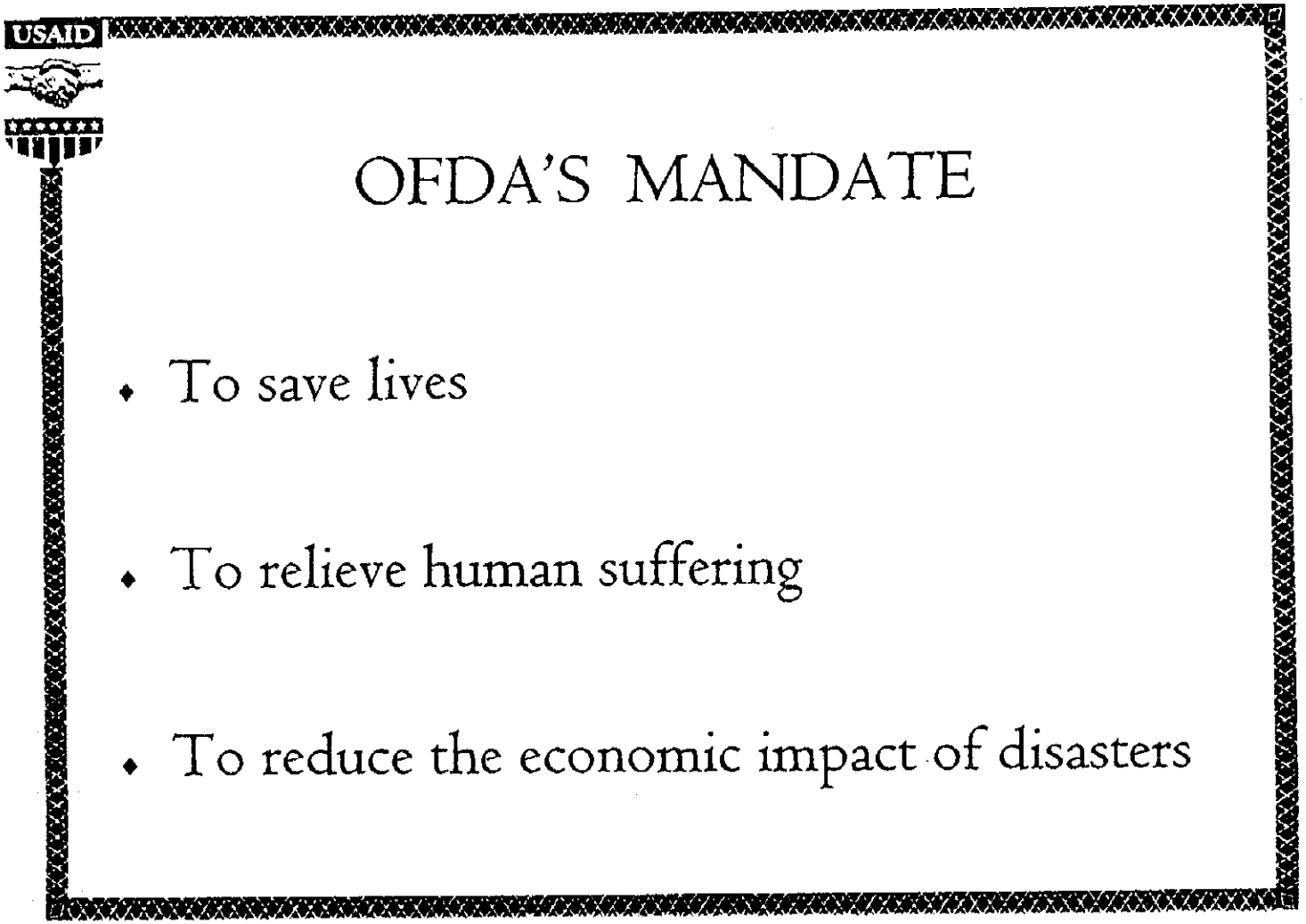
LEGISLATIVE:

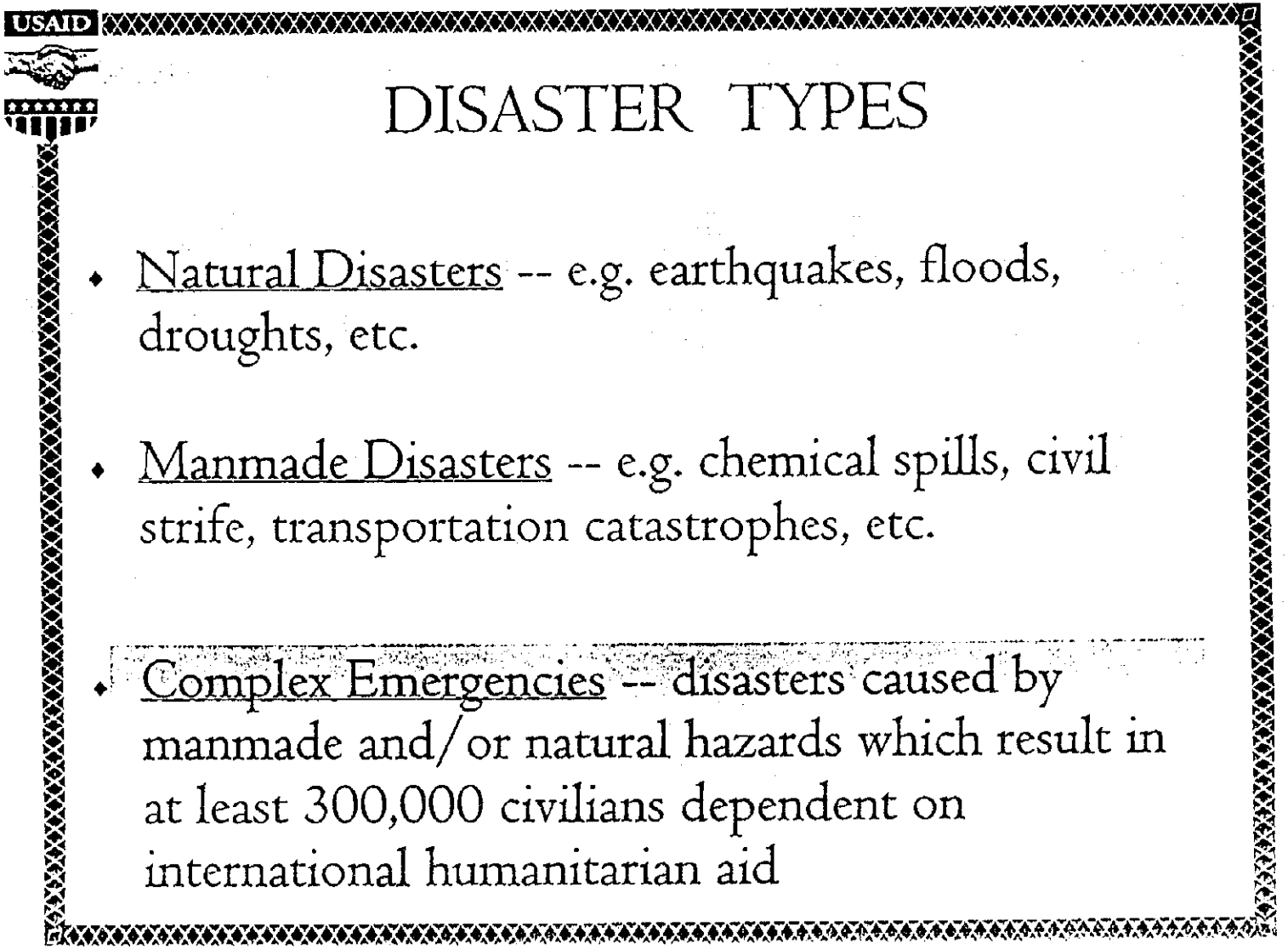
- Foreign Assistance Act -- Chapter 9, Sections 491 & 492

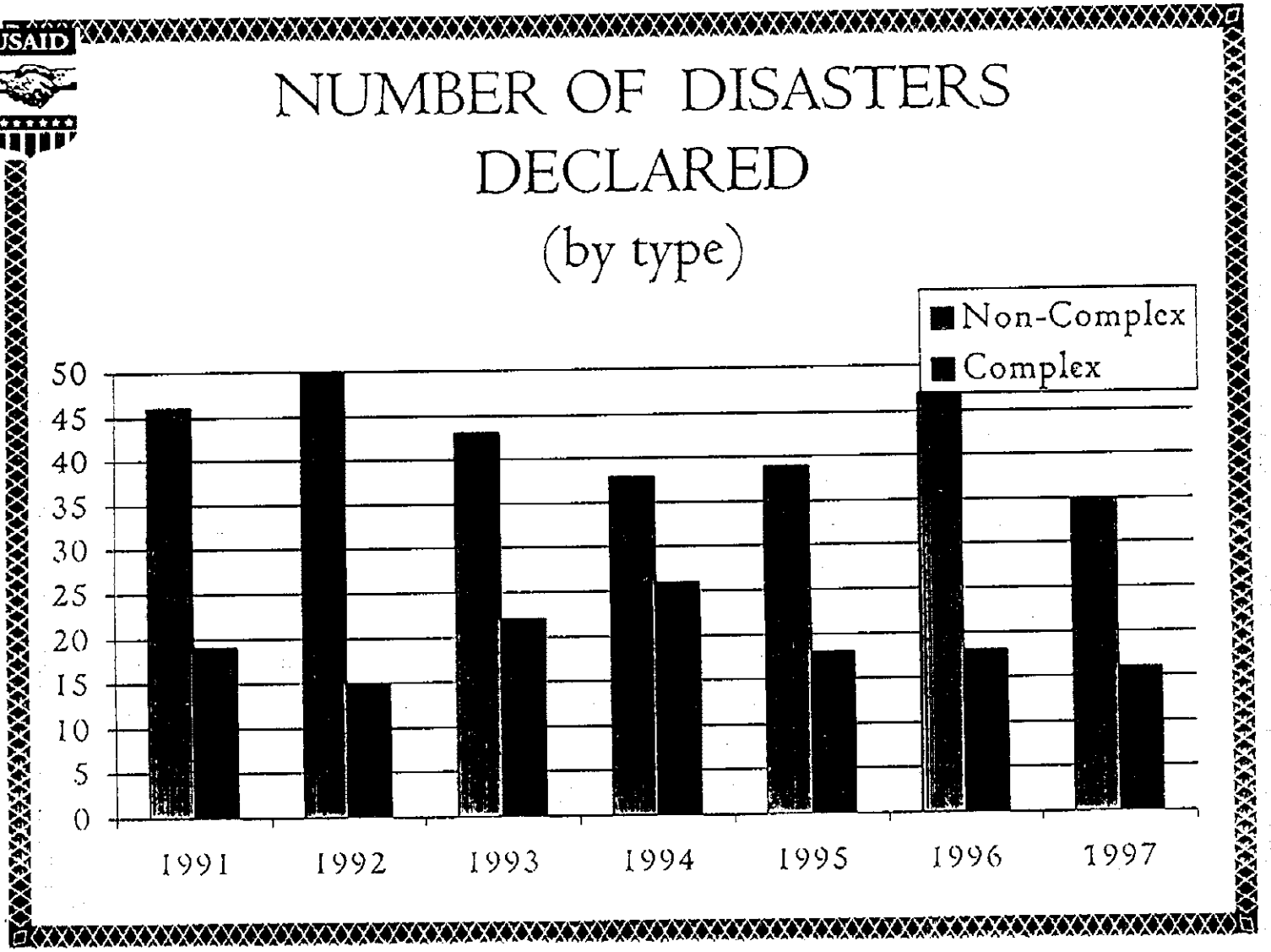
EXECUTIVE:

- President named USAID Administrator 'Special Coordinator for International Disaster Response'
- USAID Administrator delegated responsibility for disaster relief to OFDA


USAID
USG Humanitarian Bilateral Assistance by Agency
1986-1995
in billions ($)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
OFDA
Other USG Assistance (FFP, PRM, DOD, OTI, etc.)
1986
1987
1988
1989
1990
1991[1]
1992[2]
1993[3]
1994[4]
1995[5]
[1] Iraqi Refugee Crisis
[2] Southern Africa Drought
[3] Bosnia and Somalia (does not include cost of DOD humanitarian operations in Somalia)
[4] Bosnia and Rwanda Crises
[5] Decrease due to reduction of DOD expenditures (suspension of Sarajevo airlift)

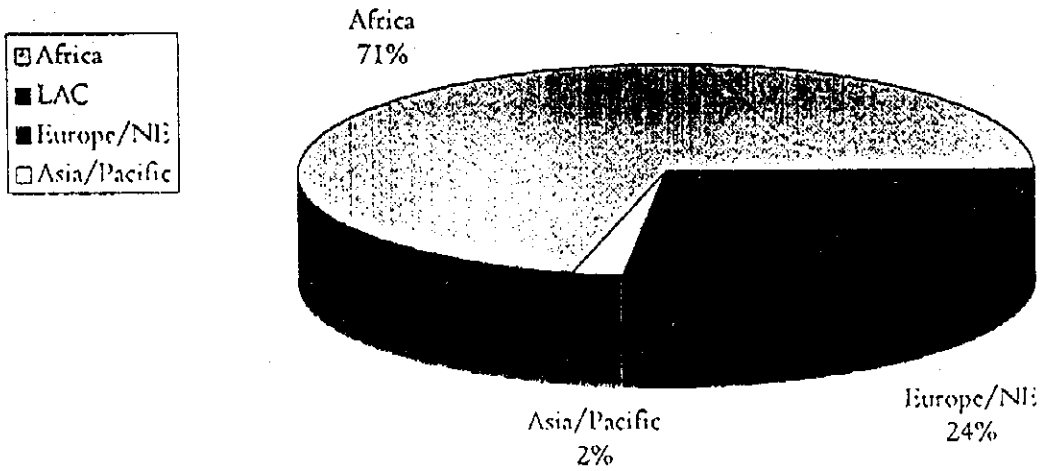

USAID
OFDA'S MANDATE
• To save lives
• To relieve human suffering
• To reduce the economic impact of disasters


USAID
DISASTER TYPES
• Natural Disasters -- e.g. earthquakes, floods, droughts, etc.
• Manmade Disasters -- e.g. chemical spills, civil strife, transportation catastrophes, etc.
• Complex Emergencies -- disasters caused by manmade and/or natural hazards which result in at least 300,000 civilians dependent on international humanitarian aid

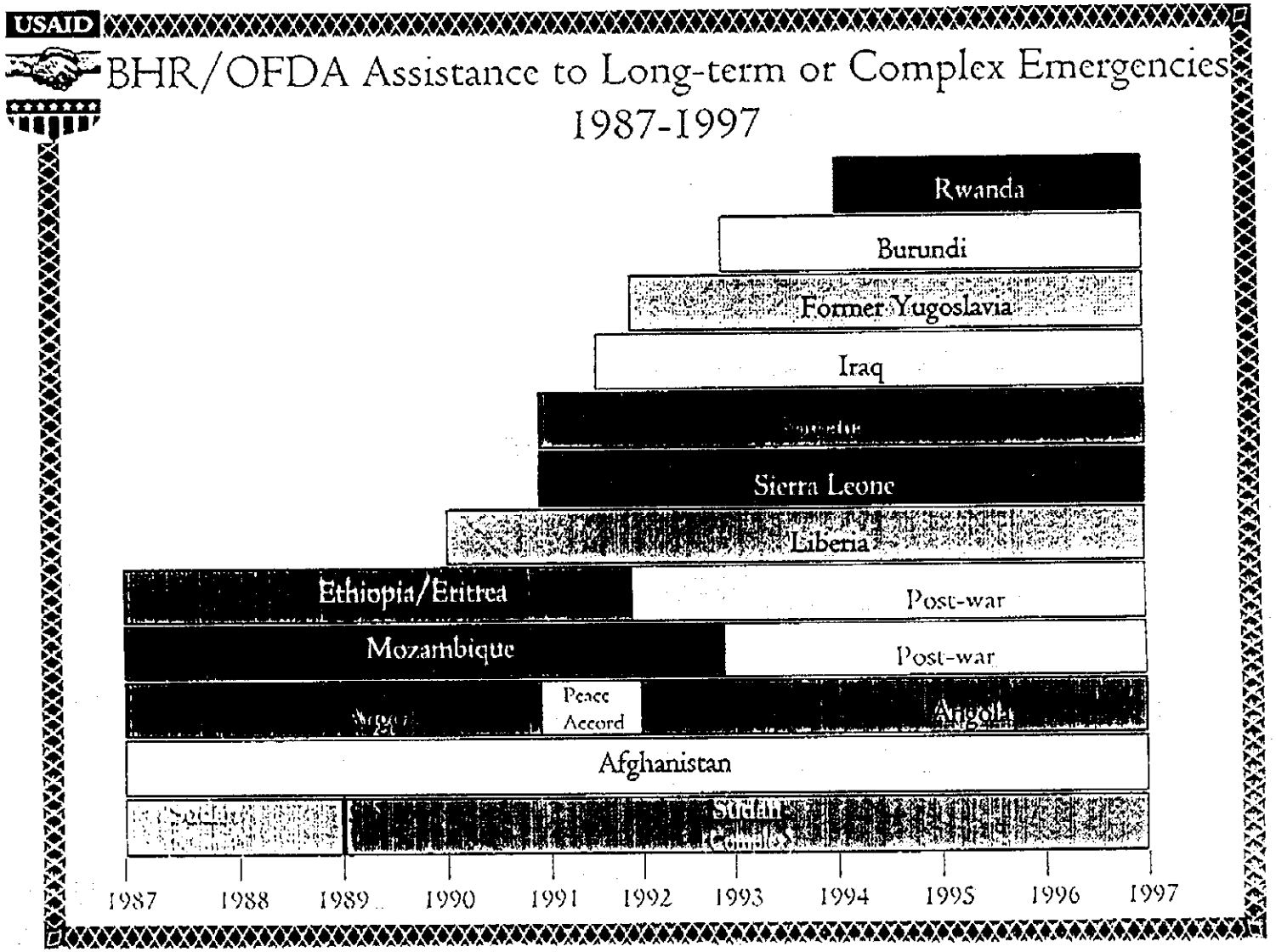

USAID
NUMBER OF DISASTERS DECLARED
(by type)
Non-Complex
Complex
50
45
40
35
30
25
20
15
10
5
0
1991
1992
1993
1994
1995
1996
1997

USAID

BHR/OFDA Disaster Response Obligations by Region FY 1991-97



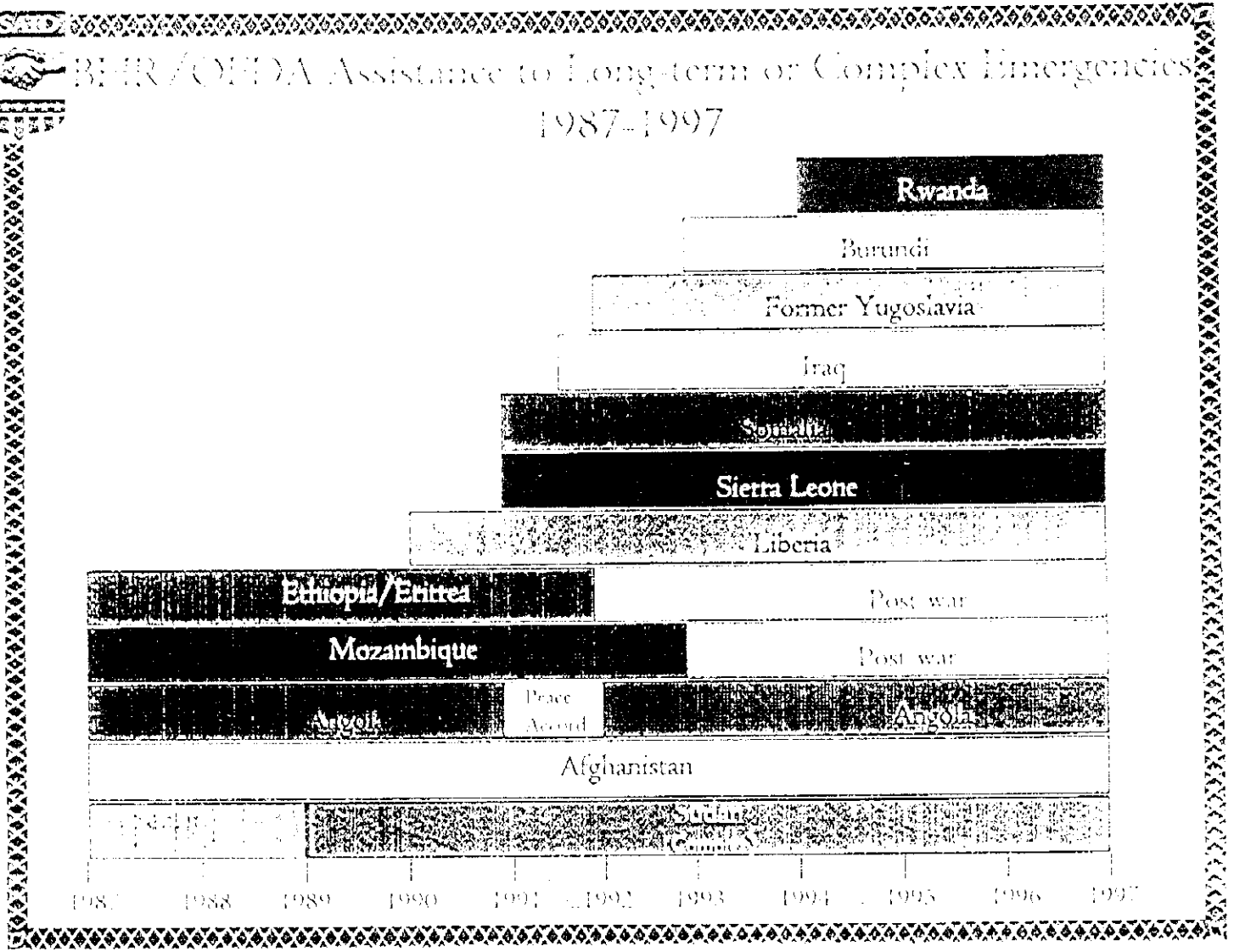
Total BHR/OFDA Disaster Response Obligations from FY 1991- 97 was approximately $1 billion


USAID
BHR/OFDA Assistance to Long-term or Complex Emergencies
1987-1997
Rwanda
Burundi
Former Yugoslavia
Iraq
Sierra Leone
Liberia
Ethiopia/Eritrea
Post-war
Mozambique
Post-war
Peace
Accord
Angola
Afghanistan
Sudan
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997

OFDA vs. FEMA

- OFDA -- Responsible for coordinating USG responses to *international* disasters

- FEMA -- Responsible for coordinating USG responses to *domestic* disasters


USAID
BHR/OFDA Assistance to Long-term or Complex Emergencies
1987-1997
Rwanda
Burundi
Former Yugoslavia
Iraq
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Sierra Leone
Liberia
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Post war
Mozambique
Post war
Angola
Peace Accord
Angola
Afghanistan
Sudan
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997

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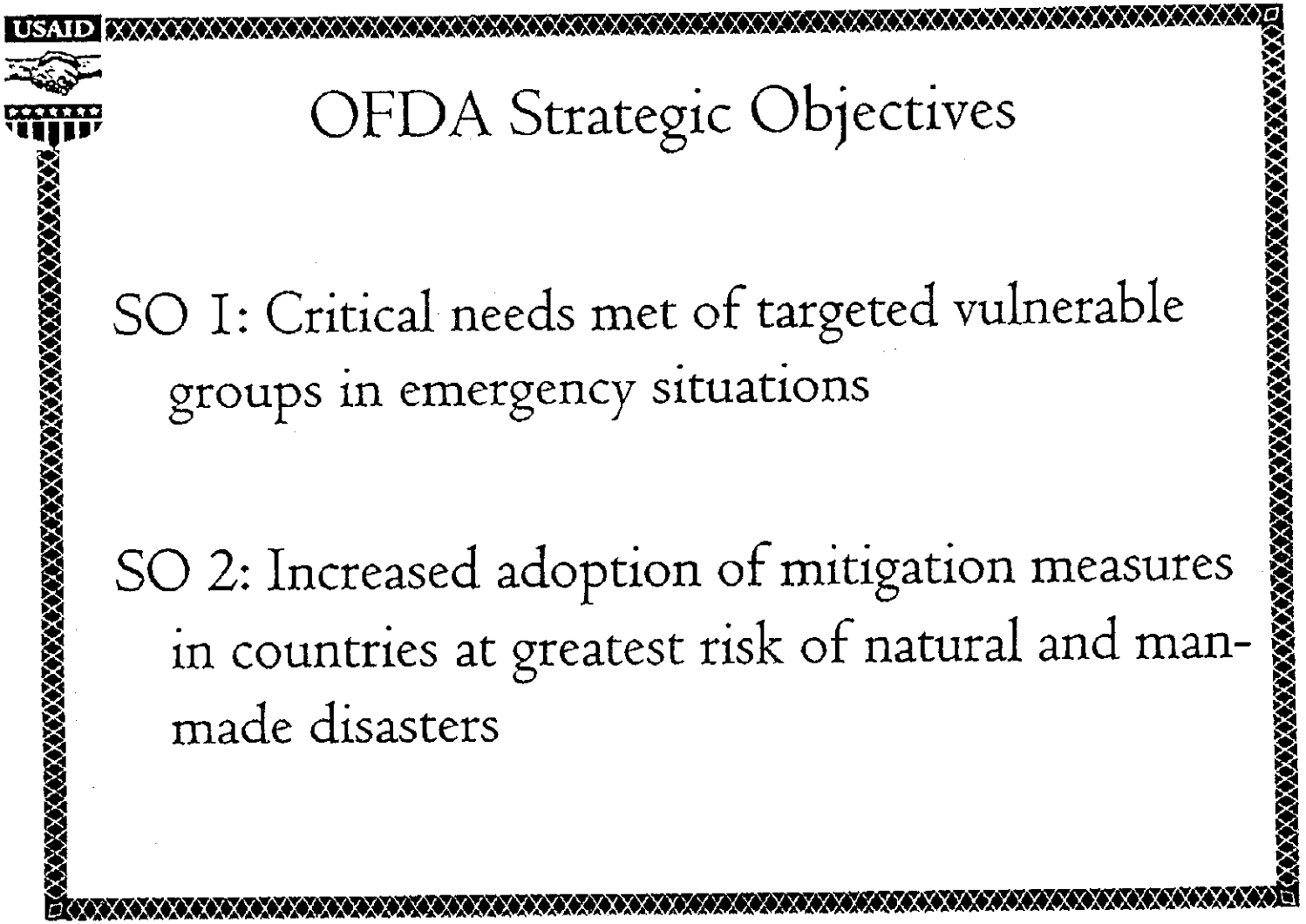

USAID
OFDA Strategic Objectives
SO 1: Critical needs met of targeted vulnerable groups in emergency situations
SO 2: Increased adoption of mitigation measures in countries at greatest risk of natural and man-made disasters

Intermediate Results I

(missing IR 1.2)

IR 1.1: Improved targeting of emergency assistance to the most vulnerable groups

IR 1.3: Capacities for livelihoods restored

IR 1.4: Disaster response capabilities of NGOs and host government entities strengthened

continued on next page....

Intermediate Results II

IR 2.1: Enhanced institutional capacity of NGOs and IOs to reduce the impact of disaster

IR 2.2: Strengthened host country capacities to reduce vulnerability to natural disasters

IR 2.3: Improved use of resources to link relief and development

米国国際開発庁における人道緊急援助の動向

山本　愛一郎

本稿では、米国政府の海外援助機関である米国国際開発庁（ＵＳＡＩＤ＝United States Agency for International Development)における人道・緊急援助部門の現状とその動向を解説する。

1. 組織

ＵＳＡＩＤにおける人道・緊急援助は、その１部局であるBUREAU FOR HUMANITARIAN RESPONSE(BHR) が所管しており、さらに自然災害や難民に対する緊急援助は、ＢＨＲの１部署であるOFFICE OF FOREIGN DISASTER ASSISTANCE(OFDA) が担当している。（図１）指揮系統としては、事柄の性質上、ＵＳＡＩＤの他の部局と異なり、ＵＳＡＩＤ長官が大統領により緊急援助調整官に任命されており、その業務を直接ＯＦＤＡに対して指揮できるようになっている。ＯＦＤＡの職員は国内外合わせて約１００名で、ＵＳＡＩＤ全体４，０００人の２．５％にあたるが、その職員は関係政府機関からの出向者が多く、この点でも他のＵＳＡＩＤの部局に対して独立性が高いように見受けられる。

2　予算及び配分

１９９６年度のＯＦＤＡの予算は１０４．６百万ドル（グラント部分のみ。）で、同年度のＵＳＡＩＤ全体予算６，７２５百万ドルの約１．６％にあたる。また、１９９６年度実績ベース（１３４．４百万ドル）で見ると、対象としては、約９０％が難民等の紛争起因による災害援助であり、自然災害に対する援助は少ない。地域的には、４６．３％がアフリカ向けであり、米国の二国間援助全体でアフリカの占めるシェアーが２２．２％であることから見てアフリカの占める割合が高い。

次に、援助資金の支出先で見ると、ＯＦＤＡは、ＤＡＲＴというアセスメントチームを派遣する他は直接援助は行わないことから、５４％がＰＶＯ（公益団体）、２４％がＮＧＯ（非政府組織）、１９％がＵＮＨＣＲ等の国連機関をつうじた援助となっている。（１９９６年度予算ベース）

3　援助政策

災害が発生した場合、米国が援助を行うかどうかの決定は、まず当該国に駐箚している米国大使が判断する。ちなみに、２５０００ドル以内の援助であれば、大使の権限で即実行される。それ以上の規模になれば本国政府の判断を仰ぐことになるが、最初の判断を被災国政府の要請ではなく、大使に委ねているところが米国らしい特徴である。もっとも、大使が判断するにあたり、①当該国では対応が困難　②被災国政府からの要請があるか援助を拒否しない場合　③米国にとって政治的利害があるか、を判断基準とする。人道援助といってもある程度米国の政治的利害を考慮するという点も特徴的である。

4. 近年の援助動向

近年の援助動向として、地震や台風等の自然災害に対する援助においては、援助要員の派遣や救援物資の供与等の緊急対応より、被災国自身の対応能力を高めるための研修や防災・減災のための協力を行う等の所謂「開発指向の緊急援助(Developmental Response)に移行している。特に各国の災害対応能力が向上している中南米においてこの傾向が強い。

この傾向については、近年米国の海外援予算が削減されている中で、費用対効果の点からも支持を得ているようである。

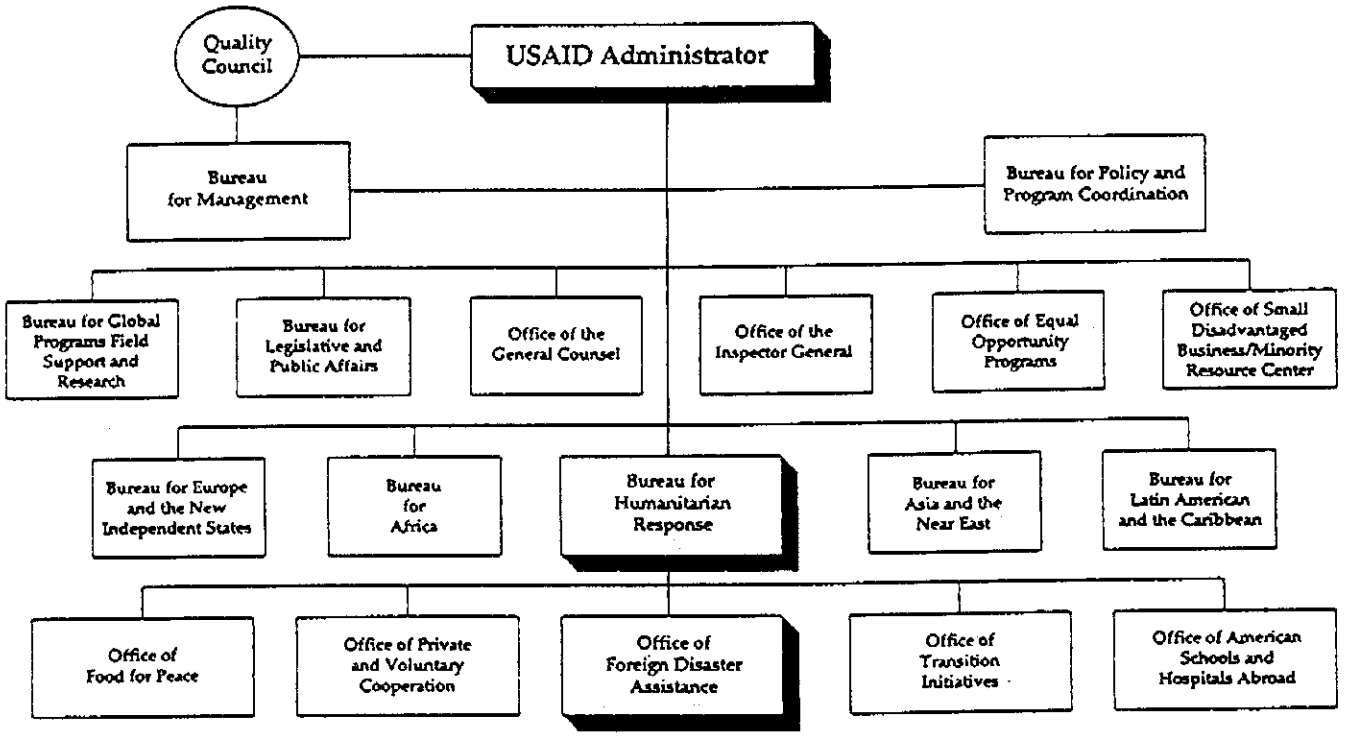
すなわち、上記の予算配分の傾向から見ても明かなように、人道援助の重点は難民支援を中心とした紛争起因災害に対する援助に移行し、自然災害については、人道援助の中での位置付けが低下しているという見方もできよう。

[参考資料]

OFDA ANNUAL REPORT FY1996

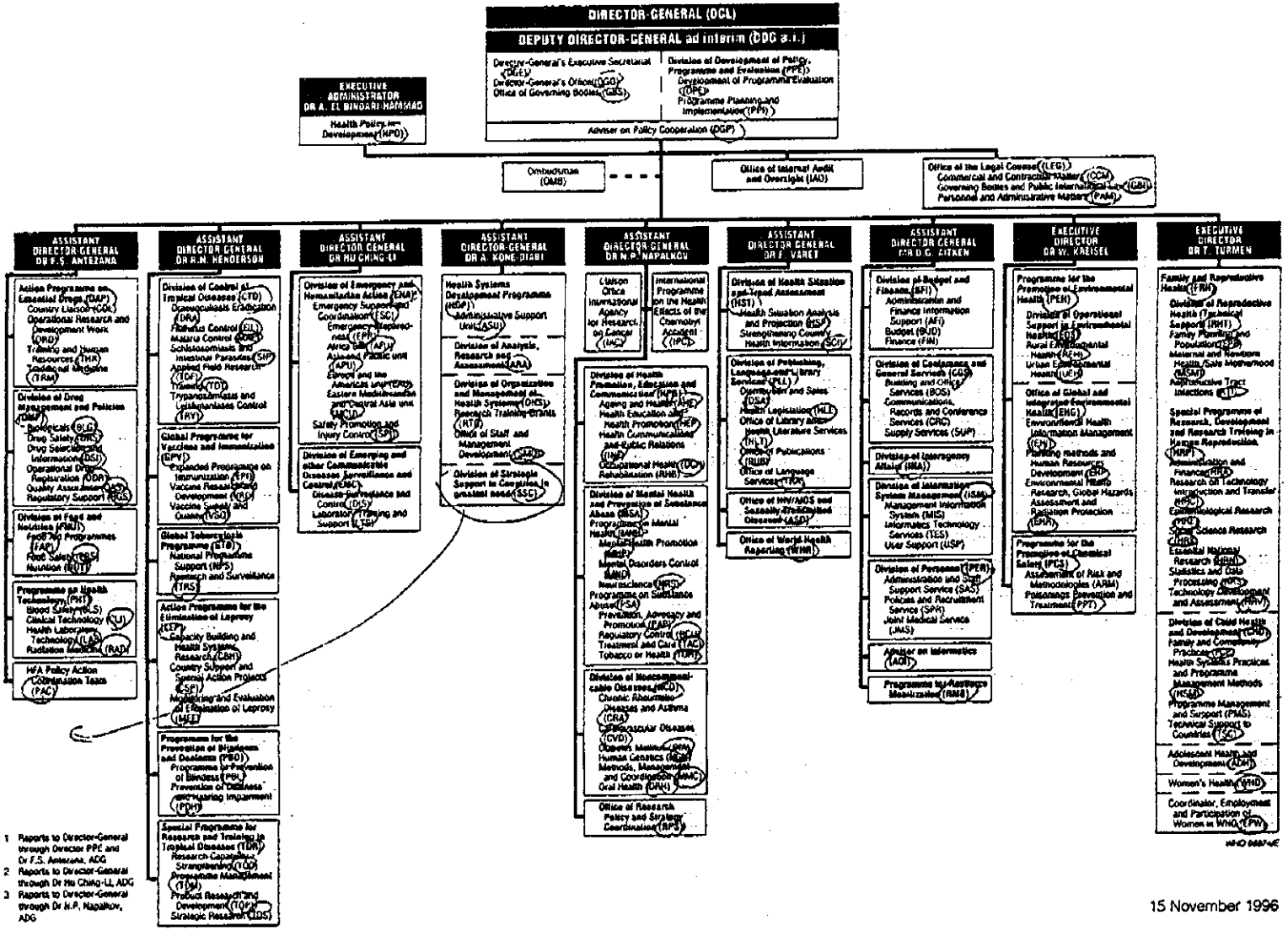
「わが国の政府開発援助上巻」（１９９７年㈱国際協力推進協会）

U.S. Agency for International Development



(13) WHO組織図

Structure of the Secretariat at Headquarters



15 November 1996

附属資料4．その他参考資料

(1) トリアージ基準　①日本赤十字

TRIAGE

・WHY？

災害医療と救急医療の違い：救命救急センター等において少数の患者に多くの医師や医療スタッフが集約的な治療を行う救急医療に対し、多数の患者に対し限られた医療スタッフと医療資材で治療を行うのが災害医療であり、治療・搬送の優先順位をつけなくてはならない。

・ WHAT？

語源：質によって群に分ける

歴史：果樹園の果実 → ベトナム戦争の負傷者 → 災害医療への応用

定義：限られた器材・人員で最大多数の生命を救うために、
治療や搬送の優先順位をつける。

・WHEN？

必要があればいつでも！　しかし、おもに救出現場・救護所への収容時・後方医療施設への搬送時および後方医療施設での搬入時に行う。

・WHERE？

必要があればどこでも！　しかし、おもに救出現場・救護所・後方医療施設で行う。

トリアージを専門に行う場所をトリアージエリアと呼ぶ

・WHO？

一般市民・レスキュー隊員・救護班（医師または婦長）

トリアージを専門に行う係りをトリアージオフィサーと呼ぶ

・HOW？

TRIAGE TAG：トリアージタッグ（患者票）

トリアージ区分

0（黒）：死亡　　1（赤）：即治療群（重症）

2（黄）：次治療群（中等症）と後治療群　3（緑）：軽治療群

（注）後治療群はきわめて重症で治療の効果が少ないもの。

トリアージタッグの役割

トリアージ順位の標示・外来カルテ（薄紙）・患者統計（薄紙）・消息調査（薄紙）・事務記録（薄紙）・紹介状（厚紙）

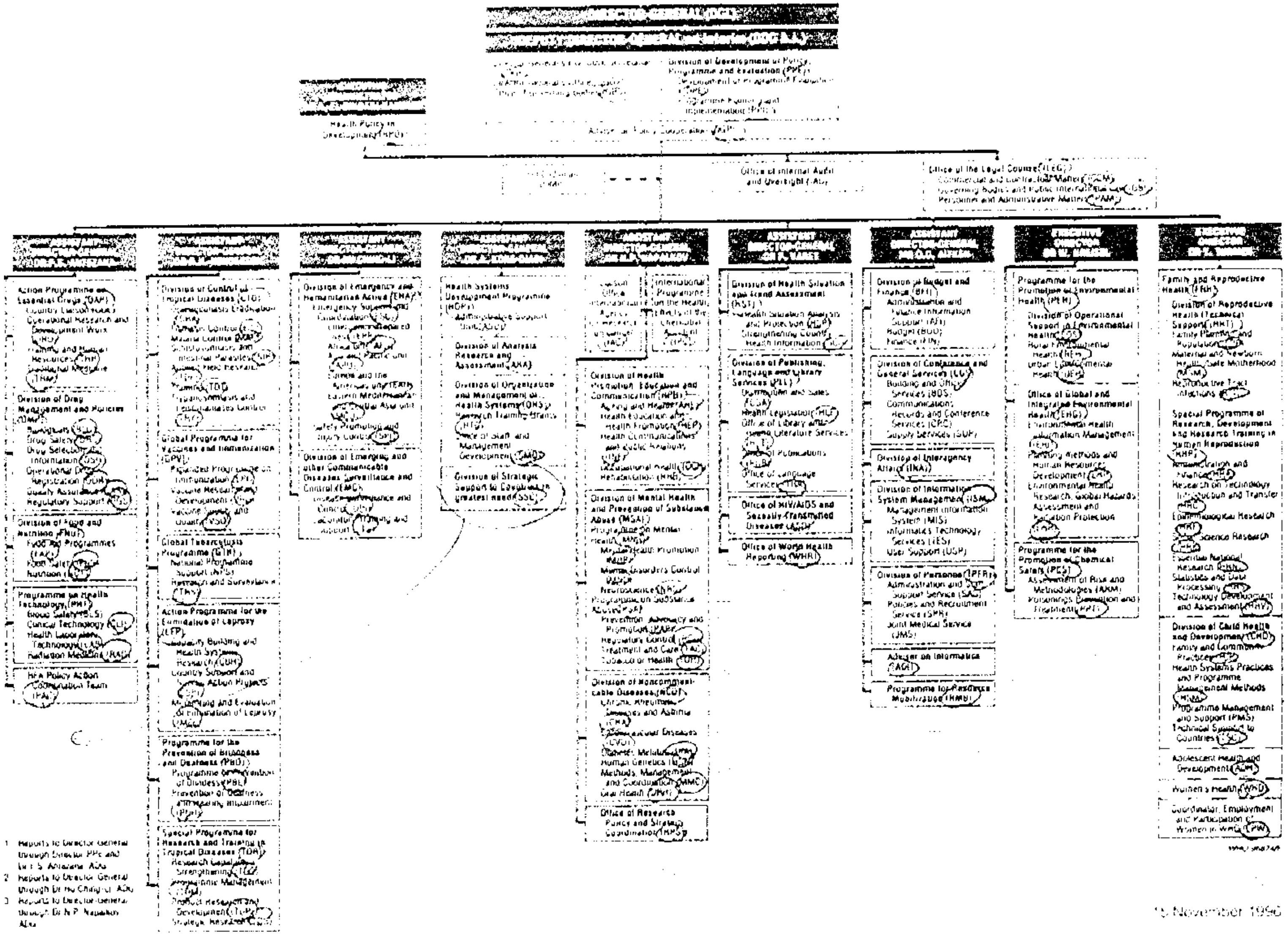
記載事項

番号、氏名（漢字、ふりがな）、ﾄﾘｱｰｼﾞ順位、診断・治療内容 etc

・CAUTION！

責任（生殺与奪の権？）・1つの誤判断が他患者に及ぶ・症状の変化に応じて再トリアージ・ 家族・マスコミへの対応・軽症者の管理

Structure of the Secretariat at Headquarters



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記載事項

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FACTORS AFFECT THE TRIAGE

-Severity of injury

the need for treatment

the possibility of survival

-Number and nature of casualties

-Facility and personnel available

-Line of evacuation and time needed

-Contingency system

Group A
Injuries are so slight
Managed by self-help

Group B
Need medical evacuation and care
Managed by simple treatment

Group C
Demand surgical attention and operation (see priority groups)

Group D
Dead or severe wounds that death is inevitable

PRIORITY GROUPS in Group C

Priority 1

Require resuscitation and urgent surgery:asphyxia and hemorrhage

Priority 2

Require early surgery, possibly associated with resuscitation: visceral, vascular or cerebral injuries,

Priority 3

Require less urgent surgery: spinal injuries, not major soft tissue injuries, lesser fractures and dislocations, eye and facial injuries

from WAR WOUNDS: Basic Surgical Management

curity

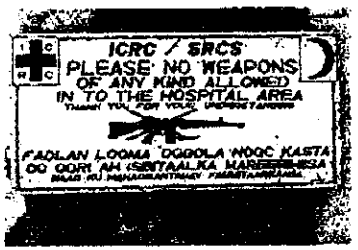
hen large numbers of civilian casualties arrive it is often difficult to control who mes into the hospital. It is essential to have a guard at the gate. His function is to ep away from the triage area those who are searching for their injured relatives or ıo come out of curiosity. In ICRC hospitals, weapons are left at the gate. Under the ms of the Geneva Conventions any hospital marked with the Red Cross or Red escent emblem must be respected, as must all medical staff and patients.

there enough space?

:cess for ambulances should allow for ease of unloading and the triage area ould be near to but not obstruct the entrance of the hospital. The area should have ıod lighting, water taps, and ropes or wires strung out at a height of 2 m on which travenous infusions can be hung. There should be easy access to radiology and to ɔerating theatres. A separate area should be designated for the treatment of peo- e with minor wounds who can wait and do not need hospital admission. Those ho are not considered suitable for surgery because of the magnitude and severity their wounds are segregated in a quieter area to leave space for those requiring tive treatment. Arrangements must be made for extension of the mortuary or a ace found to serve as a temporary mortuary.

/hat is needed?

ıe triage area should have essential equipment which is easily located and accessi- e. Stretchers, suction machines, sphygmomanometers, tourniquets for venesection, ashlights, splints, scissors, plastic bags for patients' clothing and valuables, and sets f documents are all needed. Antibiotics, analgesics, plasma expanders must be ıadily available, together with bandages, sticky tape and stethoscopes. Individual ts for setting up intravenous infusions are made up prior to the event.



ICRC CRITERIA for TRIAGE

Who does the triage?

It is essential that one person be in charge of the triage of patients. His or her decisions must be respected; otherwise chaos will ensue. A triage situation is not the time to discuss fine points; it is a time for decisive action. Whether the person doing the triage is an experienced nurse or a doctor is not important. The qualities of the person concerned must, however, include an understanding of the overall functioning of the hospital, clarity of thought under stress, experience and understanding of war wounds, an abundance of common sense and an ability to be decisive.

Categorization of wounded into priority groups

The major requirement for any system of categorization of patients into priorities is that it be simple. The wounded fall into one of the following three triage categories, after exclusion of those who do not require hospital admission and can look after themselves after minimal treatment.

Category I – priority for surgery:
Those patients for whom urgent surgery is required and for whom there is a good chance of recovery. In practice many of these patients will have abdominal injuries.

Category II – no surgery:
Those patients who do not require surgery either because their wounds are so slight that they can be managed non-operatively or because their injuries are so severe that they are likely to die or have a poor quality of survival.

Category III – can wait for surgery:
Those patients who require surgery but not on an urgent basis.

Marking and documentation of patients

The patient's admission number may be marked on his arm in Arabic numerals and his category in Roman numerals on his forehead. The disadvantage of this system is that it is not easy subsequently to change the patient's category should the need arise. Triage cards and admission sheets may be used, but great care and attention is needed to ensure that they remain with the patient. In a triage situation proper documentation is particularly important to minimize chaos and calls for considerable self-discipline on the part of staff. Observations and treatments given must be documented.

PRIORITY GROUPS in Group C

Priority 1

Require resuscitation and urgent surgery:asphyxia and hemorrhage

Priority 2

Require early surgery, possibly associated with resuscitation: visceral, vascular or cerebral injuries,

Priority 3

Require less urgent surgery: spinal injuries, not major soft tissue injuries, lesser fractures and dislocations, eye and facial injuries

From WAR WOUNDS: Basic Surgical Management

curity

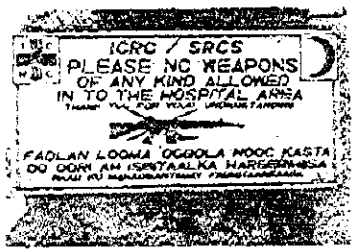
hen large numbers of civilian casualties arrive it is often difficult to control who mes into the hospital. It is essential to have a guard at the gate. His function is to ep away from the triage area those who are searching for their injured relatives or io come out of curiosity. In ICRC hospitals, weapons are left at the gate. Under the ms of the Geneva Conventions any hospital marked with the Red Cross or Red escent emblem must be respected, as must all medical staff and patients.

there enough space?

:cess for ambulances should allow for ease of unloading and the triage area ould be near to but not obstruct the entrance of the hospital. The area should have ood lighting, water taps, and ropes or wires strung out at a height of 2 m on which ravenous infusions can be hung. There should be easy access to radiology and to perating theatres. A separate area should be designated for the treatment of peo- e with minor wounds who can wait and do not need hospital admission. Those no are not considered suitable for surgery because of the magnitude and severity their wounds are segregated in a quieter area to leave space for those requiring tive treatment. Arrangements must be made for extension of the mortuary or a ace found to serve as a temporary mortuary.

/hat is needed?

ie triage area should have essential equipment which is easily located and accessi- e. Stretchers, suction machines, sphygmomanometers, tourniquets for venesection, ashlights, splints, scissors, plastic bags for patients' clothing and valuables, and sets documents are all needed. Antibiotics, analgesics, plasma expanders must be adily available, together with bandages, sticky tape and stethoscopes. Individual ts for setting up intravenous infusions are made up prior to the event.



ICRC CRITERIA for TRIAGE

Who does the triage?

It is essential that one person be in charge of the triage of patients. His or her decisions must be respected; otherwise chaos will ensue. A triage situation is not the time to discuss fine points; it is a time for decisive action. Whether the person doing the triage is an experienced nurse or a doctor is not important. The qualities of the person concerned must, however, include an understanding of the overall functioning of the hospital, clarity of thought under stress, experience and understanding of war wounds, an abundance of common sense and an ability to be decisive.

Categorization of wounded into priority groups

The major requirement for any system of categorization of patients into priorities is that it be simple. The wounded fall into one of the following three triage categories, after exclusion of those who do not require hospital admission and can look after themselves after minimal treatment.

Category I – priority for surgery:
Those patients for whom urgent surgery is required and for whom there is a good chance of recovery. In practice many of these patients will have abdominal injuries.

Category II – no surgery:
Those patients who do not require surgery either because their wounds are so slight that they can be managed non-operatively or because their injuries are so severe that they are likely to die or have a poor quality of survival.

Category III – can wait for surgery:
Those patients who require surgery but not on an urgent basis.

Marking and documentation of patients

The patient's admission number may be marked on his arm in Arabic numerals and his category in Roman numerals on his forehead. The disadvantage of this system is that it is not easy subsequently to change the patient's category should the need arise. Triage cards and admission sheets may be used, but great care and attention is needed to ensure that they remain with the patient. In a triage situation proper documentation is particularly important to minimize chaos and calls for considerable self-discipline on the part of staff. Observations and treatments given must be documented.

The four triage groups

- T 1 : Urgent!
  Needs life-saving therapy
  and urgent surgery

- T 2 : Can wait!
  Needs therapy and surgery,
  but can wait

- T 3 : Must wait!
  Light case, and needs
  simple therapy only

- T 4 : Too much!
  Surgery cannot save, or
  Surgery is too time consuming

⑤ PAHO

PAN AMERICAN HEALTH ORGANIZATION (PAHO) FIELD TRIAGE SYSTEM

Based on Urgency,

Likelihood of survival

Care resources available

Field triage system:

On-site triage

Medical triage

Evacuation triage

MEDICAL TRIAGE (PAHO)

Red: immediate stabilization care

-Shock status from any cause

-Respiratory distress

-Head injury with anisocoria

-Major external bleeding

Yellow: close monitoring, care can be delayed

-Risk of shock

-Compound fracture

-Femur/pelvic fracture

-Severe burns

-Unconscious/head injury

-Victim with uncertain status

Green: delayed or no treatment

-Minor fracture and burn

-Hopelessly injured victims

Black: Deceased

⑥NATO

EMERGENCY WAR SURGERY
(NATO Handbook, 3rd edition1988)

1: Urgent resuscitation Group
demand Immediate Resuscitation

2: Immediate Surgery Group
need immediate surgery

3: Delayed Surgery Group
can wait surgery

4: Minimal Care Group
/Walking Wounded
need minimal care

5: Expectant group
too severe to treat or transport

1: Immediate Resuscitation Group

demand Immediate Resuscitation for asphyxia and hemorrhage

- hemostasis and shock therapy
- tracheal intubation
- tracheotomy
- thorachocentesis
- pericardocentesis

2: Immediate Surgery Group

need emergent medical treatment to save life

- exploratory operation for chest and abdomen
- tracheotomy
- brain and cervical bone operation

3: Delayed Surgery Group

can save life without immediate operation but need operation

- scar fracture and penetrate injury without coma
- chest and abdominal injury without shock
- major fracture and amputation of extremities
- burn(slight<50%,severe<15%)

4: Minimal Care Group

obviously slight and not need transportation

- lesser fracture and dislocation
- simple stab wounds
- slight soft tissue injury
- burn(slight<10%, severe<2 %),
- moderate chemical exposure
- radiation exposure<200rad or day 1 radiation sickness
- mental disease or exhausted

5: Expectant Group

can not expect for survival

- brain injury with coma
- chemical exposure with lung edema and coma
- irreversible shock
- multiple visceral injury
- shock due to cardiac injury and multiple penetrating wound
- radiation exposure>200rad
- burn>50%

War Surgery

Field Manual

Hans Husum MD

Swee Chai Ang MD Erik Fosse MD
Illustrated by Hans Husum

Third World Network

228 Macalister Road
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Notice
Although **War Surgery, field manual** encourages non-graduate health workers to engage in war casualty management, the manual cannot replace practical instruction by qualified experts. Neither the publisher nor the authors of this volume are responsible for damage done by unqualified implementation of the described procedures.

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24 February 1997

Mr.Hank Spierenburg, M.D.E.
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Canada

Dear Hank Spierenburg,

In response to your e-mail to us of 13 Feb 1997, we are pleased to enclose herewith a complimentary copy of our publications 'War Surgery: Field Manual' for review purposes.

We would appreciate if you could kindly send us a copy of the review once it has been published.

With best wishes.

Yours sincerely,

Khoo Swee Lee
for Third World Network

encl.

'"War Surgery, field manual" will be a help to health care providers who have to treat war casualties in less than ideal circumstances. This is something that is not easily obtained from the literature, and this book will be an important contribution to the field.... It will help establish a standard of care for military and non-military health care providers who are required to treat patients under these conditions.'

John A. Weigelt MD, Professor and Vice Chairman, Department of Surgery, University of Minnesota, USA

'... "War Surgery, field manual" is a practical and detailed handbook for surgeons and other medical staff who find themselves having to meet the needs of injured people in situations of war. The book not only covers assessment and procedures for surgical intervention in a wide variety of circumstances, but also includes wealth of information on the organization of war medical service and on approaches to setting up forward clinics. The manual will prove to be an indispensable tool for surgeons and surgical assistants who find themselves in circumstances of war. As far as I know, there is no other manual in existence which covers this information with such depth and clarity.'

David Werner, the author of "Where There Is No Doctor"

'MMC has used the procedures recommended in "War Surgery, field manual" in building a network of mobile forward clinics. Since 1989 our field clinics have provided limb and life-saving surgery to more than 5,500 war casualties from the combat grounds in Central and Eastern Afghanistan. With its simple terminology and clarifying illustrations, the book has proved to be very useful in training of graduate as well as non-graduate medical staff.'

Dr. Assadullah Reha MD, Medical Director of Mujahed Emergency Medical Center (MMC), Jalalabad, Afghanistan

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ESTABLISHING A MASS CASUALTY MANAGEMENT SYSTEM

Pan American Health Organization
Pan American Sanitary Bureau, Regional Office of the
World Health Organization

5.3 *Location*

The main criterion for an effective command post is radiocommunications. This can be implemented from any sort of structure, ranging from a single police car to a specific mobile command post, or from a tent to an appropriately located building.

The command post must be installed at the external boundary of the strictly restricted area (impact zone), close to the advance medical post and the evacuation area. It must be easily identified and accessible. Its location should accommodate all communication (visual, radio, road).

5.4 *Personnel*

The command post is staffed by the highest ranking personnel available from police, fire service, health sector, and defence force (where existing).

This core group can co-opt volunteer organization representatives and, depending on the type of accident, specialized personnel (e.g., airport manager in the case of an airplane crash, prison governor in prison incident).

It is generally agreed that the coordinator of this unit is a police officer. However, depending on the specific nature of the incident, the coordinator may be more specialized (e.g., an airport manager in case of an airport accident).

Those likely to operate in the command post must be identified by name and position. They must be familiar with each other's roles, know each other, and have practiced and discussed issues during regular meetings. These meetings should include exercises to practice coordination of resources, and administrative discussions about changes in resources or procedures as they develop. Meetings should be held on a regular basis, but they need not be frequent.

5.5 *Method*

The command post is the communication/coordination hub of the pre-hospital organization. The command post will, by constant reassessment of a situation, identify needs to increase or decrease resources in order to:

- Release, as soon as the situation allows, the emergency services staff that are no longer needed in the field. In this way, the command post will contribute to the re-establishment of routine operations.
- Organize the timely rotation of rescue teams exposed to stressful/exhausting situations in close cooperation with the back-up system.
- Ensure the provision of adequate supplies of equipment and manpower.
- Ensure comfort/welfare of rescue teams (provide food and drink).
- Provide information to back-up systems, and keep other officials and the media informed (through an official spokesperson).
- Determine the termination of field operations.

C. MANAGEMENT OF VICTIMS

1. Search and Rescue

Search and rescue operations depend strictly on skilled teams from the fire service and specialized units, assisted when necessary by volunteers. These teams will:

- Locate victims
- Remove victims from unsafe location to collecting point if necessary
- Assess victim status (on-site triage)
- Provide first aid, if necessary
- Transfer victims to the advance medical post, if necessary

Search and rescue teams work in the strictly restricted area (impact zone) under the command of a fire officer or, in specific situations, of specialized personnel.

Depending on the risk (e.g., toxic smoke, hazardous materials), rescue teams will utilize special protective clothing and equipment. In exhausting working conditions, a quick turn over of rescue teams must be implemented.

The situation could arise that, due to the location of the victim (trapped under a collapsed wall, for example), extrication will need time. If the status of the victim is bad, the rescue team leader can request, through the Command Post, on-site assistance of medical personnel in order to commence stabilization of the patient during extrication. This procedure requires specifically trained medical personnel and must only be used in exceptional cases.

When the impact zone is large, it may be necessary to divide it into smaller "working areas", each assigned to a rescue team. In such a situation, or when the impact zone is unsafe, the Search and Rescue Officer will establish a Collecting Point in a safer area adjacent to the impact zone, where victims will be temporarily assembled (see Figure 5). This collecting point will be managed by emergency medical technicians (EMTs) and volunteers, and will ensure the initial triage, first aid and transfer to the advance medical post.

2. Field Care

When an area does not have adequate health care facilities available to face a mass casualty incident (e.g., one small secondary/tertiary hospital), rapid transportation of all victims to a hospital with limited resources will compromise the care of the seriously injured victims. In addition, this will profoundly disrupt the hospital care system, endangering patients already in the hospital. It is not realistic to "push" 200 victims into a 300-bed hospital, with only 3 operating rooms, for example, and expect good results.

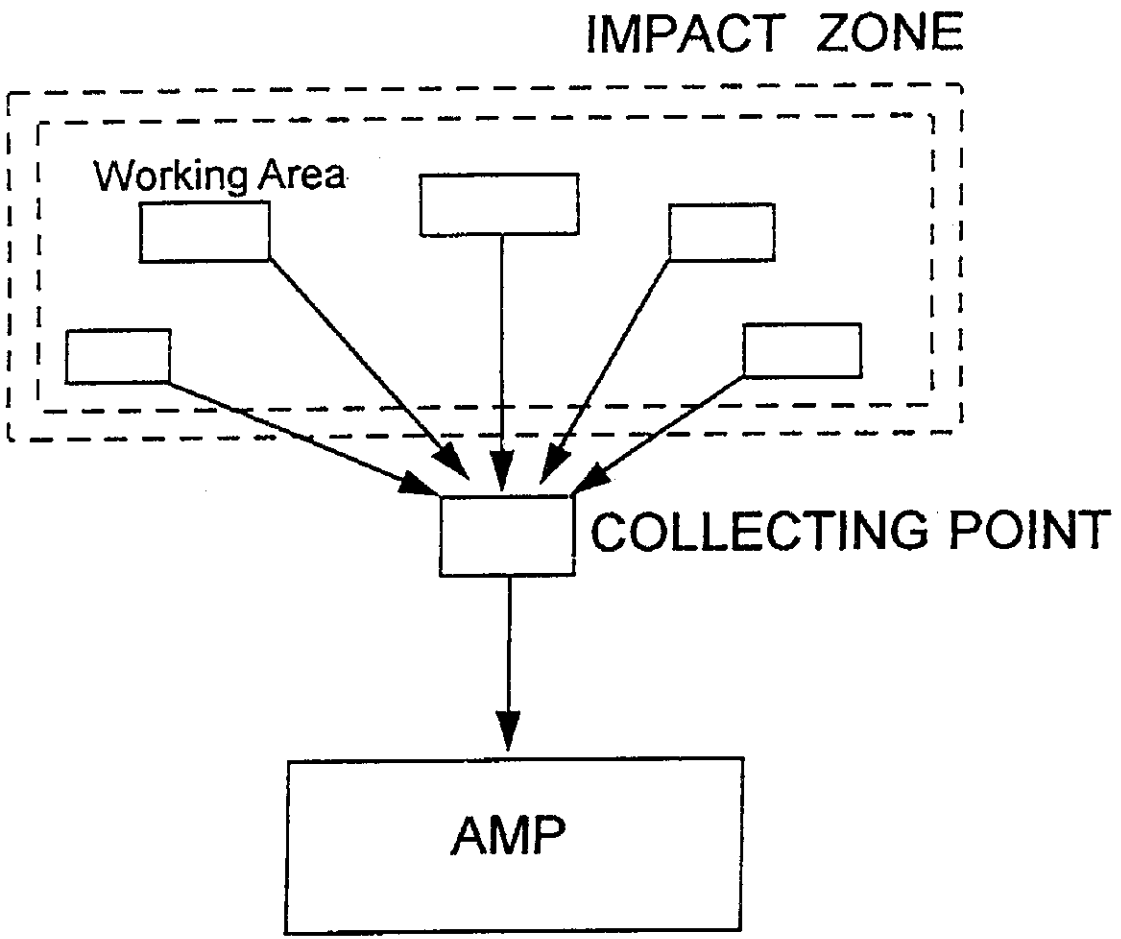
One operating theater requires at least six highly specialized people to run it. A patient suffering from "major" trauma may take 3-4 hrs to "stabilize". Each region or area must identify its own resources and limitations:

- How many operating theaters are available in a region?
- How many of these operating theaters can be adequately staffed in a crisis?

The answer to the second question may affect the answer to the first.

In limited resource conditions, due to space and care available, transport of victims to hospital should be staggered. This supposes that victims will receive adequate field treatment, allowing them to tolerate this delay.

Figure 5. **COLLECTING POINT**



Actually, in a mass casualty event, only a small number of victims will need immediate treatment in a hospital. The "Golden Hour", here, applies essentially to victims with internal bleeding who could fully benefit from immediate "life saving" surgery.

The recent progress in pre-hospital emergency medicine allows specific skilled teams to provide good field care, through establishment of an Advance Medical Post. This "disaster field medical team" approach supposes the existence of:

- Good triage capacity
- Specifically trained medical teams
- Good radiocommunications between the field and the hospital
- Good coordination of all involved sectors.

2.1 *Triage*

The objective of "classical" field triage is to identify victims needing immediate transport to health care facilities and those who can be delayed. This triage is based essentially on urgency (victim status), and, secondly, on likelihood of survival.

In countries or areas with few resources, this second criterion is of greater importance, being strictly correlated to the health care resources available. So a new triaging approach is necessary based on urgency, likelihood of survival, as well as on care resources available.

Triage objectives will then be:

- Quick identification of victims needing immediate stabilization (field medical care)
- Identification of victims who could be saved only by immediate surgery (life-saving surgery)

The field triage process will be conducted at three levels:

- On-site triage (triage one)
- Medical triage (triage two)
- Evacuation triage (triage three)

2.1.1 *On-Site Triage*

This is the on-site categorization of victims "where they are lying" or at the collecting point. This on-site triage, due to limited medical resources, will generally be performed by first aiders, sometimes by EMTs.

A survey of 15 mass casualty simulation exercises conducted in the Caribbean area showed that when the color code triage is utilized, the percentage of incorrect classification decreased in accordance to experience (i.e., first aid workers made the most incorrect classifications followed by EMTs and then emergency medical staff, see Figure 6).

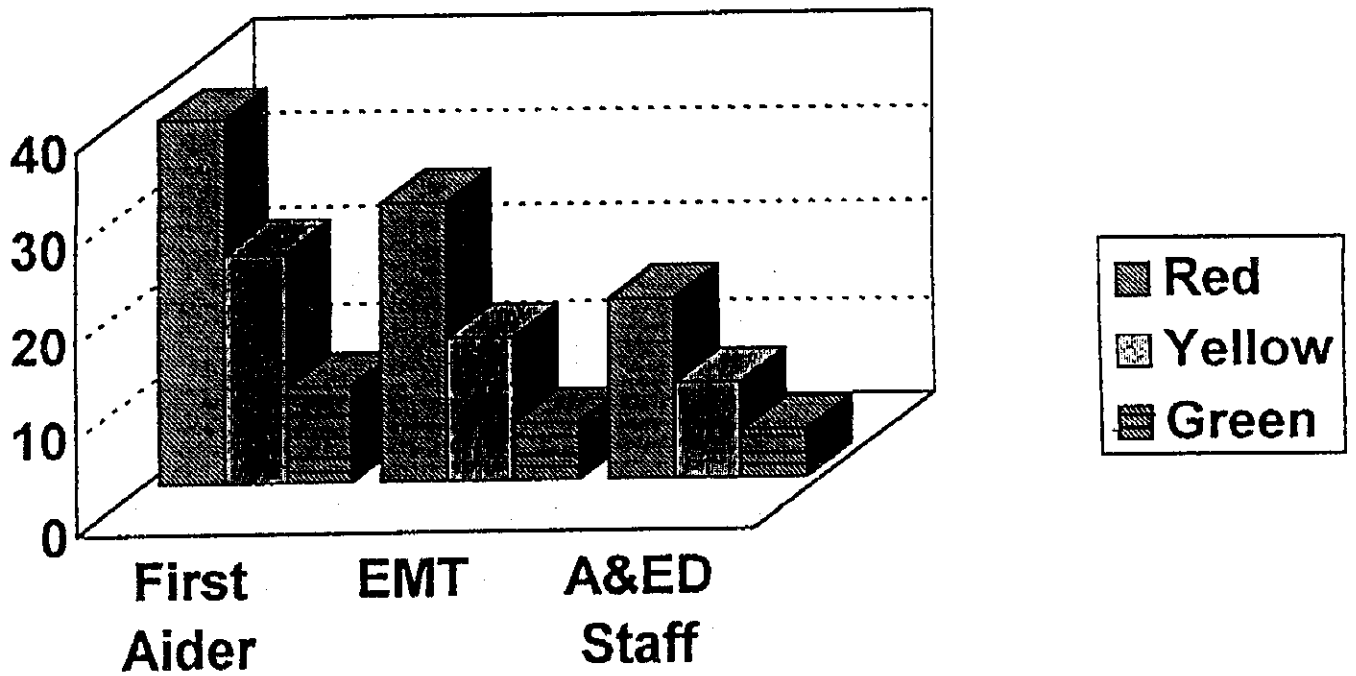
However, if we group red and yellow victims in an "acute victim" category and green in a "non-acute victim" category, the percentage of incorrect classifications is significantly lower (see Figure 7).

The result of this survey demonstrates that it is difficult for a volunteer/first aider, infrequently exposed to a triage situation, to accurately distinguish between some red and yellow victims, while his or her training will allow easier differentiation between acute and non acute victims. Moreover, first aiders utilize more time to fill the color code triage tag, with less effectiveness, than more skilled personnel.

In spite of the remarkable commitment of volunteers, these problems will not be solved by more theoretical training, but only by greater exposure to real situations. This may be difficult to organize for volunteers who are not involved on a daily basis in emergency rescue operations.

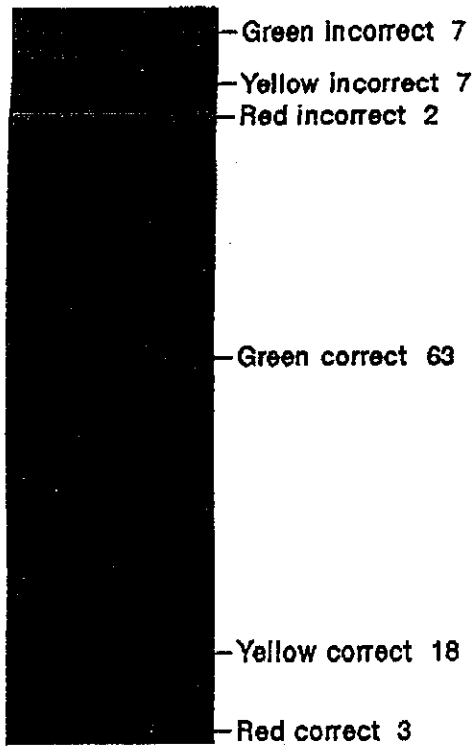
Figure 6. TRIAGE

Percentage of Incorrect Categorization

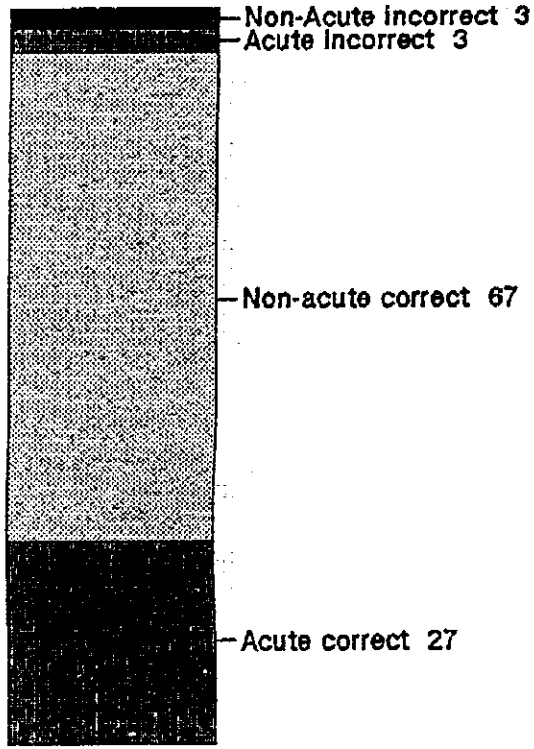


Average from 15 simulation exercises

Figure 7. TRIAGE
First Aider Level



Color Code Triage



Acute/Non-acute Triage

Categorization of 100 Victims

The on-site triage is expected to identify those victims needing prompt medical attention (quick transport to the advance medical post) and those who can wait; in other words, to classify victims in acute (red and yellow) and non acute (green and black) categories.

Acute victims will not be tagged but marked by a large floating red ribbon, securely attached to them. Non acute victims will be identified by a green ribbon. Stretcher bearers will thus easily identify, even from some distance, acute patients to be taken immediately to the Advance Medical Post.

In this way, on-site triage time (for assessing, categorizing, marking and transporting victims to the advance medical post) will be significantly reduced, and incorrect categorization will decrease.

2.1.2 Medical Triage

This triage will be performed at the entrance to the Advance Medical Post by the most experienced medical personnel available who have extensive skill in triaging.

Although most disasters produce injured victims, some specific events (e.g. mass food poisoning, chemical intoxication, shipwreck) give rise to victims needing only intensive care. Moreover, primary treatment for severe shock in multiple trauma is intensive resuscitation. Hence, when possible, the preferred specialist to act as triage officer should be an emergency physician, followed by an anesthesiologist, then by a surgeon.

The objective of medical triage is to determine the level of care needed. The color code triage tag will be utilized at this stage, when more accurate information on victim status can be collected. Accordingly, the color categories assigned to the victims will be:

Red = requires immediate stabilization care and includes victims with:

- Shock status from any cause
- Respiratory distress
- Head injury with unequal pupils
- Major external bleeding

This immediate care (intensive field care) provided to patients with a reasonable likelihood of surviving, will allow them to tolerate transfer to health care facilities and prepare them to receive treatment. It should also allow for the recategorization of victims from "red" status to "yellow" (e.g. chest drainage for a tension pneumothorax).

Yellow = requires close monitoring; care can be somewhat delayed. This category includes victims with:

- Risk of shock (e. g., heart attack, major abdominal trauma)
- Compound fractures
- Femur/pelvic fracture
- Severe burns
- Unconscious/ head injury
- Victim with uncertain status

All these victims will receive an IV line (vein guard), close monitoring for any complication, and will receive treatment as soon as possible.

Green = requires delayed or no treatment, including victims with:

- Minor fracture
- Minor wounds and burns

These patients, after receiving dressing and/or splinting, will be transferred at the end of the field operation.

- Hopelessly injured victims, if still alive at the end of the field operation, will be transferred to health care facilities.

Black = Deceased

Particular circumstances will dictate different responses: A victim with 50% body surface burns is classically triaged as "red". In fact, the immediate treatment needed is essentially infusion. In an accident with a small number of victims and substantial care resources available, this person must receive immediate attention and be quickly transferred to a specialized care unit.

In a mass casualty event where there are limited care resources, the initial treatment of such a burn victim can be delayed for an hour as long as the victim has no breathing problems. Thus the immediate transfer to a hospital is no longer a priority. This victim will then be classified as "yellow".

2.1.3 *Evacuation Triage*

This triage will prioritize victims for transfer to adapted and ready-to-receive health care facilities.

If the Advance Medical Post is successful in its care providing role, the number of "red" victims should decrease, and re-tagging will be necessary before evacuation.

The Medical Officer in charge of the Advance Medical Post will decide, according to the status of the victims and in liaison with the Command Post and the hospital, who will be moved first to what destination, with what type of vehicle and escort.

The color code triage will be used as follows:

Red = to be transferred immediately or as soon as possible to tertiary hospital, by equipped ambulance, with medical escort. This includes:
- Victims needing life-saving surgery
- Victims needing function-saving surgery
- Victims for ICU

Yellow = to be transferred, after evacuation of all red victims, to tertiary hospital, by ambulance, with first aider escort. This includes:
- Victims without life threatening problems needing tertiary hospital care

Green = to be transferred, at the end of the field operations, to appropriate health care facilities by available vehicles, without escort. This includes:
- Minor wounds and burns —> health center or polyclinic, never to main hospital.
- Hopelessly injured —> main hospital

Black = transfer to morgue

2.2 *First Aid*

2.2.1 *Personnel*

First aid is provided by volunteers, fire and police staff, special unit staff, EMTs and medical personnel.

2.2.2 *Location of first aid*

- Directly on-site, before moving victim
- At the collecting point
- In the "Green Area" of the Advance Medical Post
- In the ambulance while transferring victims to health care facilities.

2.2.3 *Action*

Classical first aid attention can be provided, including control of airways, breathing and cardiac functions, position of victim, control of bleeding, immobilization of fracture, dressing and comfort. However, first aiders must keep in mind that, on-site, the most important priority is to transfer,

as soon as possible, acute victims to the advance medical post while ensuring key first aid actions (i.e., maintain airways, control bleeding). Since it is time and manpower consuming, CPR must never be used on site in a mass casualty event.

2.3 *Advance Medical Post (AMP)*

2.3.1 *Purpose*

One of the main objectives of rescue and care services in a mass casualty event is to reduce loss of life by providing, as soon as possible, effective care for all the victims. When, due to limited resources and lack of space, a health care facility cannot provide adequate housing and effective treatment for victims of a mass casualty event, alternate solutions must be proposed. Distributing victims among various health institutions is a viable alternative, but this supposes the existence of other health facilities at a reasonable distance from the disaster or accident site and the availability of transport resources and coordination.

If distance is too great, or transport resources too few, the transfer of victims to an adapted health care facility will involve delay, and delay puts the victims at greater risk. In such a situation, victims must receive the best stabilization possible in the field, allowing them to tolerate delayed arrival to hospital.

Field care cannot be improvised and must not be managed by untrained individuals. Well prepared organization is required, with the establishment of a specific treatment area. This treatment area, a front line, light medical structure, constitutes the Advance Medical Post.

2.3.2 *Location*

The Advance Medical Post must be established within walking distance (50 - 100 meters) of the impact zone:

- In a safe area
- With direct access to the evacuation road
- At a short distance from the Command Post
- In a clear radio communication zone

In some circumstances, for example at a site where hazardous materials are present, the AMP will be placed further away. But it must remain as close as safely possible to the impact zone. In such a situation, transport of victims from the impact zone to the AMP will require a different organization. If weather conditions allow (i.e., rain, sun, temperature, wind), the AMP can be in the open. It is preferable, if possible, to locate it in a building or under a tent.

2.3.3 *Role*

The main objective of the AMP is to provide effective field stabilization for victims of a mass casualty event. As outlined above (C.2.1.2), medical triage will take place at the entrance of the AMP in order to identify victims who will benefit from immediate attention.

Field stabilization care involves intubation, tracheostomy, chest drainage, drug treatment of shock, analgesia, fluid replacement, faciotomy, fracture immobilization, and dressing.

Another of the results, other than stabilization, expected from the care provided by AMP staff is to move as many patients as possible from the red to yellow category. The final role of the AMP is to organize patient transfer to adapted health care facilities.

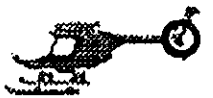
Figure 8. **ADVANCED MEDICAL POST**

3 T Principle

TAG

TREAT

TRANSFER



These functions can be represented by the three "T" rule: Tag, Treat, Transfer (see Figure 8).

2.3.4 *Personnel*

In order to provide the level of care needed by victims in an Advance Medical Post, staff must be skilled medical personnel. The level of care provided here is similar to that expected from any hospital Accident and Emergency Department, and the most appropriate staff should be drawn from emergency physicians and nurses.

In most countries or communities, the hospital Accident and Emergency Department is likely to have, immediately available, at least one physician and nursing staff. These medical personnel must be available for immediate mobilization and will form the backbone of the Advance Medical Post.

This initial group in charge of establishing the AMP will be reinforced by other emergency physicians, anesthetists, surgeons and nursing staff as the momentum of the mobilization gathers. This hospital medical staff will be joined by paramedics, EMTs and first aiders.

2.3.5 *Organization of the Advance Medical Post*

i. Internal Structure

Design

The design of the Basic AMP (see Figure 9) includes:

- One entrance, easy to identify
- A reception/triage area for the placement of a maximum of two victims simultaneously
- A treatment area for 25 victims simultaneously, divided into:
  - Area for acute victims (i.e., Red and Yellow tags); this will be the largest area
  - Non-acute victims area (Green and Black tags).
- One exit

The design of the Standard AMP (see Figure 10) includes:

- Two entrances (Acute - Non Acute), each entrance being easily identified by red flag (for acute victims) and green flag (for non-acute victims).
- Two adjacent Reception/Triage Areas, interconnected to facilitate victim exchange.
- An Acute Treatment Area, linked to acute triage area, divided into:
  - Red treatment area (immediately adjacent to triage area)
  - Yellow treatment area (following the red treatment area)
- A Non-Acute Treatment area, linked to non-acute triage area, divided into:
  - Black victims area (immediately adjacent to triage area)
  - Green treatment area (following the black victims area)

Each treatment area will be identified by a flag of appropriate color.

- An Evacuation Area: temporary waiting area for stabilized patients in transit to transfer.

Surface Area

The Advance Medical Post, being a "pass through" area, must not house many victims at one time. On an average, it should be able to accommodate 25 victims together with the AMP staff. Following are recommendations for the surface area required:

- Treatment and circulation require, as minimum field standard, 3 sq yards (2.6 m2) per victim.
- Minimum area for triage is 10 sq.

Figure 9. BASIC ADVANCE MEDICAL POST

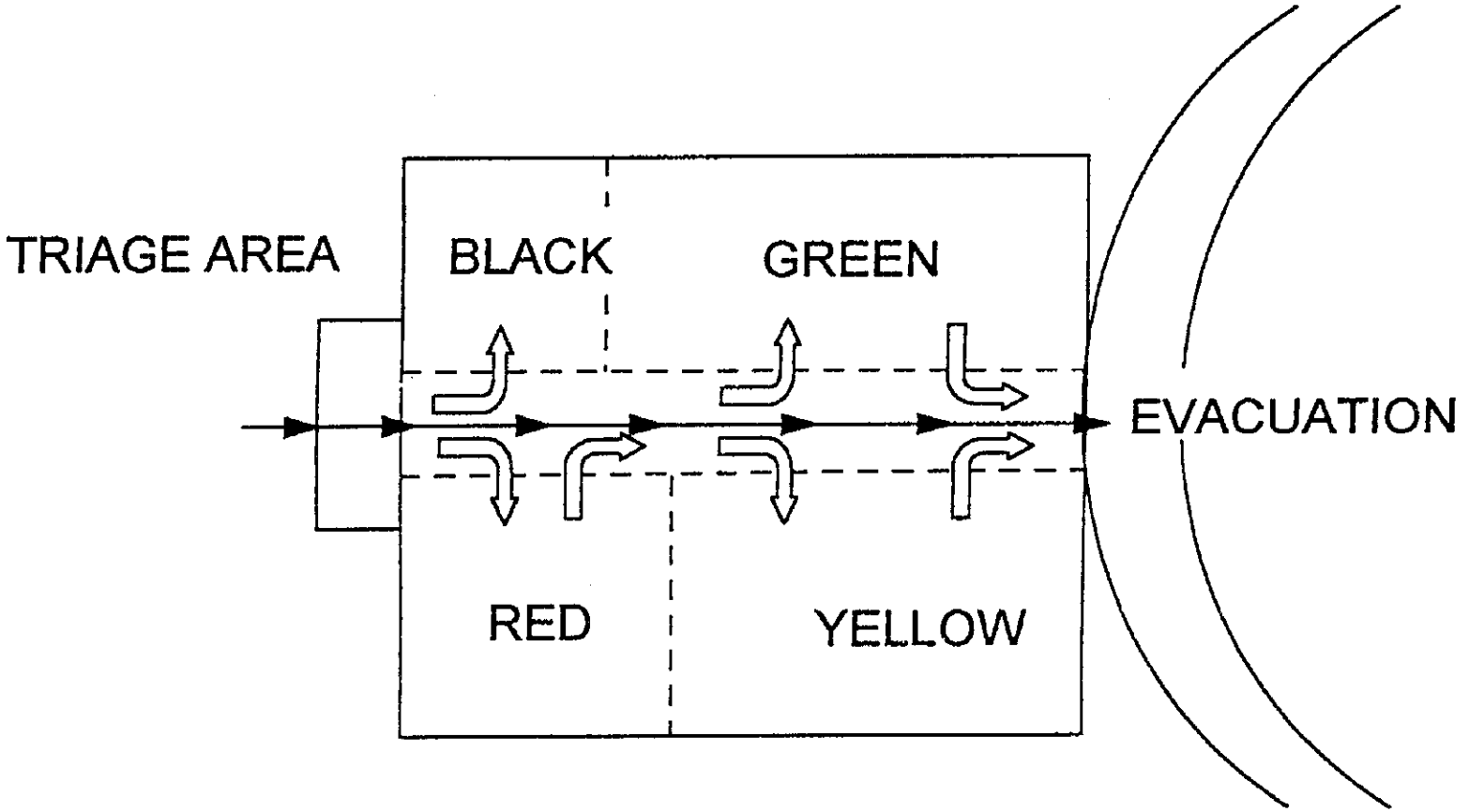
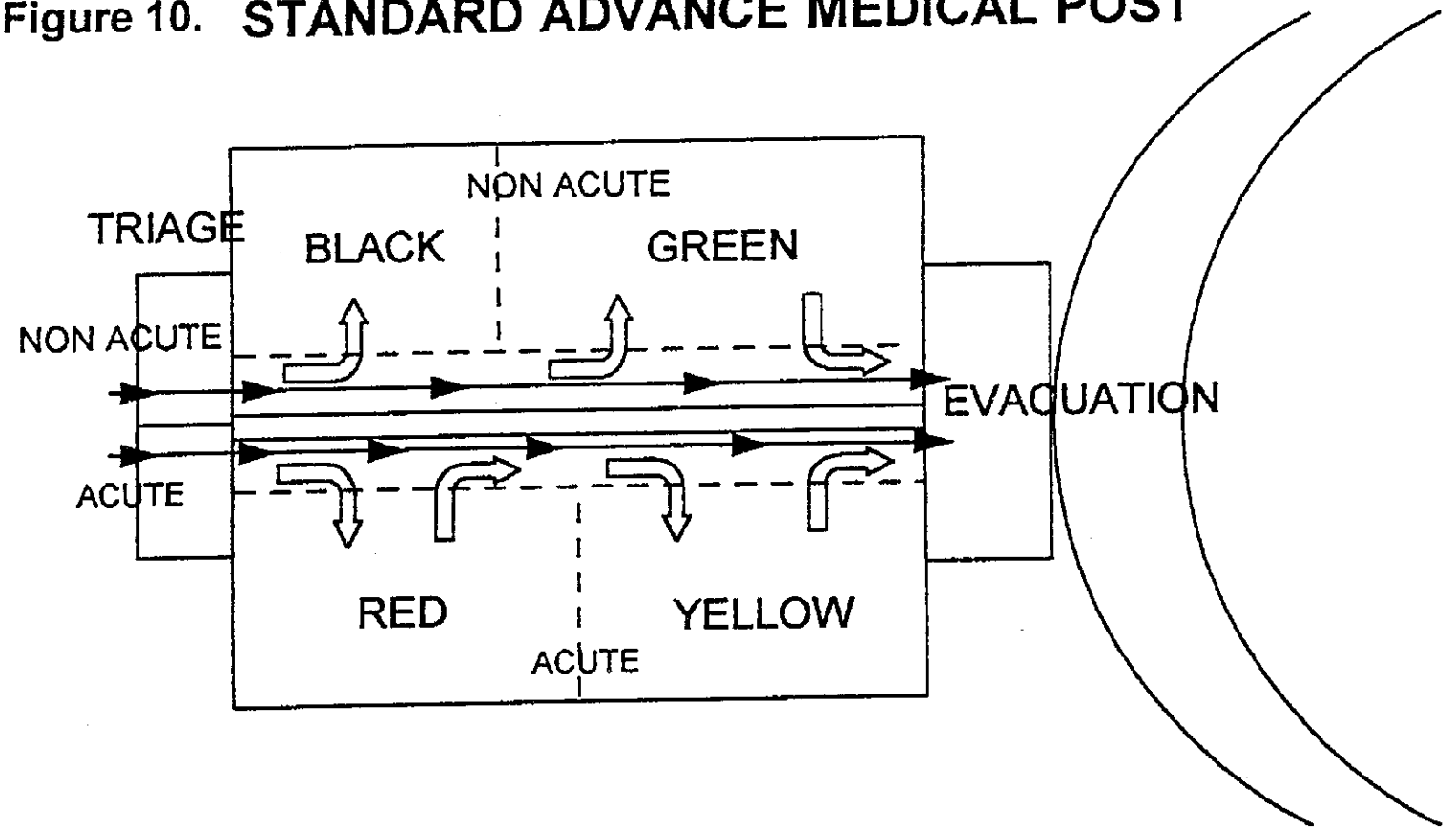


Figure 10. STANDARD ADVANCE MEDICAL POST



yards (8.3 m2), due to intense traffic.
- Minimum area for basic AMP treatment areas is 75 sq. yards (65m2).
- Minimum area for standard AMP treatment areas is 150 sq. yards (130 m2).
- An evacuation waiting area will require 30 sq. yards (26 m2).

So minimum area required for an AMP is approximately 85 sq. yards (73 m2).

ii. Victim flow

Victims carried by stretcher bearers will arrive at the appropriate triage entrance. The triage area must not house more than two victims at a time.

Victims will be tagged in RED/YELLOW/GREEN/BLACK. Registration will be done simultaneously and victims transferred to the appropriate treatment sub-area, where they will be stabilized.

Once stable, victims will progress to the evacuation area where registration of departure will be completed.

2.3.6 Personnel for Standard AMP

i. Triage Area (reception):

Acute:

- Triage Officer: most experienced physician (preference of experience: emergency physician, anesthesiologist, surgeon). No more than one person performs triage at one time.
- Assisted by either a nurse, an EMT or a first aider (in order of preference).
- Administrative Clerk for registration (clerk/nurse/first aider).

Non-Acute:
- Triage Officer: most experienced nurse, paramedic or EMT
- Assisted by first aider
- Administrative Clerk (possible duplicated in first aider).

In a basic AMP, a single triage team will operate for all victims. This team will be constituted as the above-mentioned acute triage team.

No treatment is to be done in the triage area.

ii. Treatment Areas

Acute Treatment:

a. Acute Treatment Manager: preferably a skilled paramedic or EMT, experienced in disaster organization. If there are enough trained personnel available, an experienced physician might take this responsibility. This individual must be able to supply the area, coordinate with other areas, organize disposal, and manage radio communications. This individual will also act as the Manager of the AMP.

b. Red Treatment Team:
- Team Leader: Anesthesiologist, emergency physician or skilled paramedic
- Nurse/anaesthetist and/or Emergency Department nurse
- Assisted by EMT and/or first aiders
- Stretcher bearers

c. Yellow Treatment Team:
- Team Leader: Nurse (Anaesthetist or Emergency Department) or paramedic
- Assisted by EMT and/or first aider
- Stretcher bearers

Non-Acute Treatment:

d. Green Treatment Team:
Team Leader: most experienced EMT
Assisted by EMT and/or first aider
Stretcher bearers

e. Deceased (Black category) victims area:
No personnel required

iii. Evacuation Area

a. Leader: Paramedic/experienced EMT able to:
- Assess stability of patient's status
- Assess security of equipment
- Monitor briefly prior to transport
- Supervise loading
- Provide brief escort

b. Administrative Clerk

c. Transport Officer: Senior officer from Fire or Ambulance Service. Liaises with the Manager of the AMP and the Command Post.

2.3.7 Equipment (minimum requirement)

i. Triage Area

- Identification devices for area and officer
- Triage tags
- Clerical equipment
- Trestles (only four)
- Area lighting devices
- Sphygmomanometer/Stethoscope/ Flashlight/Gloves

ii. Acute Treatment Area (quantities required for a minimum of 25 patients):

- Identification devices for area manager (red jacket marked "Manager") and for each team leader (red/yellow arm bands).
- Area lighting devices
- Trestles
- Stretchers
- Blankets
- Clerical equipment
- Sphygmomanometer/Stethoscope/ Flashlight/Gloves
- Medical disaster kit, including:

Airway equipment, including:
- Oxygen
- Intubation set
- Tracheostomy set
- Chest tube set
- Ventilation bag

Cardio-vascular equipment, including:
- Infusion set + fluid
- Drugs for treatment of shock
- MASTrousers

Electrical/pneumatic equipment, including:
- Suction
- Specialized light
- Cardioscope/defibrillator
- Respirator
- Batteries and/or generator

Dressing/Splint kit, including:
- Compresses, bands
- Suture set
- Gloves
- Antiseptics
- Survival blanket
- Splints (including cervical collars)

iii. Non-Acute Treatment Area

- Special lighting devices
- Dressing/splint
- Clerical equipment
- Stretchers
- Sphygmomanometer/Stethoscope/ Flashlight/Gloves

iv. Evacuation Area

- Light
- Stretchers
- Clerical equipment
- Sphygmomanometer/Stethoscope/ Flashlight/Gloves

3. Evacuation Management Center (EMC)

When disaster situations have multiple impact zones, each requiring the establishment of an Advance Medical Post (AMP), an intermediate level is required to coordinate evacuation. If each AMP dispatches directly to the tertiary care center without such coordination, the result will be loss of efficiency.

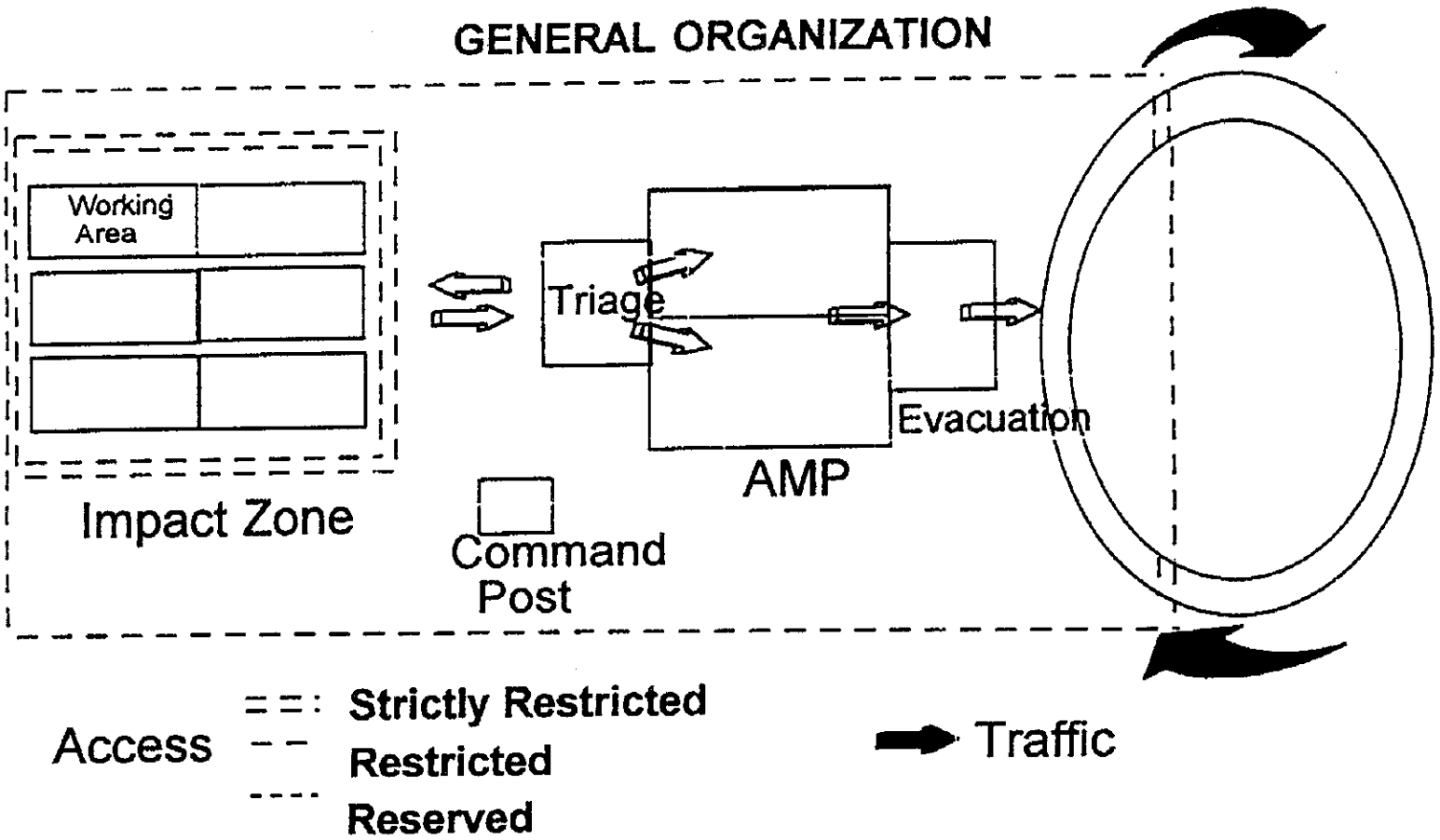
To facilitate coordination, these multiple AMPs would dispatch to a center with greater stabilizing and evacuation facilities, which will coordinate the onward transfer. This may be a "field hospital", a polyclinic, a secondary hospital, or other ad hoc structures. This Evacuation Management Center (EMC) will:

- Collect/assemble all victims from attached AMPs
- Reassess victims
- Improve and/or follow stabilization
- Dispatch victims

D. FIELD MANAGEMENT PLAN

Figure 11 shows the general organization required in a field mass casualty situation.

Figure 11. **FIELD MASS CASUALTY MANAGEMENT**



4. TRANSFER ORGANIZATION

A. DEFINITION

The transfer organization includes those procedures implemented to ensure that victims of a mass casualty incident will be safely, quickly, and efficiently transferred by appropriate vehicles to the appropriate and prepared health care facilities.

B. PREPARATION FOR EVACUATION

1. General Procedures

1.1 Single Receiving Facility

In the case that there is one receiving health care facility, there will be a direct link (by radio/phone) between the Acute Treatment Manager (ATM) and Accident and Emergency Department or hospital Command Post. The receiving hospital must maintain an active record of space available.

1.2 Multiple Receiving Facilities

In the case that there are multiple receiving facilities available, the Acute Treatment Manager will provide the Command Post Medical Officer with patient status and most appropriate care need (c.f. Evacuation Triage).

The Command Post Medical Officer (CPMO) will contact receiving facilities to confirm space available and inform of transfer. The Command Post Medical Officer will transmit destination to the Acute Treatment Manager.

The Acute Treatment Manager will then inform the Transport Officer of the following:

- Type of vehicle required
- Type of escort required
- Destination

The Transport Officer will notify the evacuation area of the required transport resource, if available. If the appropriate transport resources/escort are not available, the Transport Officer will propose alternative resources to ATM. If the team leader agrees on an alternative, then dispatch may proceed. If the team leader disagrees, the victim will continue to be monitored until an appropriate resource is available.

As each victim departs, the Transport Officer will inform the Command Post.

2. Preparation for Transport

The Evacuation Officer will:

a. Assess the stability of the patient's status by monitoring pulse, B/P, breathing/ventilation, hemostasis. Any abnormality must be reported to ATM.

b. Assess the security of the equipment, including:
   - Checking all tubes for correct positioning, and their ability to stay attached to the patient during the rigors of transfer. Deficiencies should be corrected where possible - if not, the ATM must be informed.

(2) 赤十字診断書

NAME: NUMBER:

COMING FROM: MALE/FEMALE AGE:

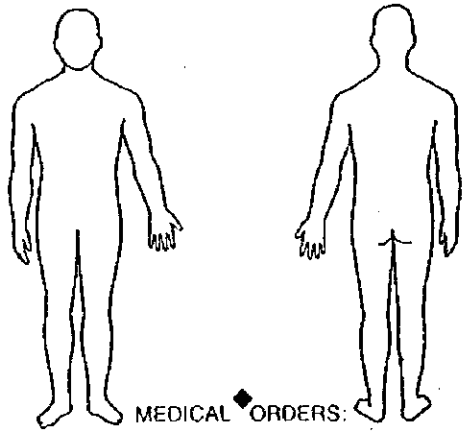
DATE: TIME: GSW: MI: SHELL: BOMB: BURNS: OTHER:

TIME SINCE INJURY:

GENERAL CONDITION:

PULSE: BP: RESP: TEMP:

ANTIBIOTICS: ATS/ANATOXAL:



◆ MEDICAL ASSESSMENT

◆ MEDICAL ORDERS:

Hb: IV fluids:

Hct: NPO from:

X match:

TRIAGE: I- Immediate surgery II- No surgery III- Wait for surgery

◆ OPERATION NOTE

◆ POST OPERATIVE INSTRUCTIONS

Antibiotics:

to stop:
Position Physio / drains / traction

By mouth: Food / Fluids / Nil

Other:

Next in OT:

◆ PENETRATING WOUND SCORE ◆

E ☐ X ☐ C ☐ F ☐ V ☐ M ☐

E ☐ X ☐ C ☐ F ☐ V ☐ M ☐

◆ OTHER INFORMATION