What is Flexible Use of Airspace (FUA)?

➢An airspace management concept.

➢A methodology of capacity management.

➢Airspace should not be designated as either purely civil or purely military airspace.

➢Airspace should be considered as one continuum in which all users requirements have to be accommodated to the greatest possible extent.

Flexible Use of Airspace (FUA)

- Due to the increasing density of air traffic, the availability of airspace becomes even more important. Therefore, it is no longer regarded as civil or military property, but as a continuum, which is allocated in a flexible way and always on a temporary basis- to civil and/or military users according to their requirement.

Flexible Use of Airspace (FUA)

- FUA means the availability of airspace for military purposes, which is temporarily segregated for reasons of flight safety, and flexible ATS routes (conditional routes) for general air traffic. These routes supplement the existing ATS route network and lead through temporary segregated airspace (TSA).

Conditional Routes

- A non-permanent ATS route or portion there of which can be planned and used under specified conditions.

- A conditional route may be of more than one category, and those categories may change at specified times.

Category 1 conditional route (CDR1):

CDR1 routes are available for flight planning during times published in the Aeronautical information Publication (AIP).

Category 2 conditional route (CDR2)

- CDR2 routes may be available for flight planning. Flight may only be planned on a CDR2 in accordance with conditions published daily in the conditional route available message.

Category 3 conditional route (CDR3):

- CDR3 routes are not available for flight planning. Flights must not be planned on these routes but ATC units may issue tactical clearances on such segments.

Application of FUA in Sudan

- In order to apply FUA Civil/Military Cell has been established to satisfy the needs and requirements for both civil and military sides.

- HSWS TWR is connected to ACC with Hotline , screen with the same system as Khartoum ACC.

- The joint civil-military cell is responsible for establishing the procedures and measures required for applying the FUA, and the procedures are attached to the LOA BTN CIV/MIL.

Application of FUA in Sudan

- Arrangements has been made for MIL. ATCOS TO have the same training as civil ATCOS to reach a common understanding.
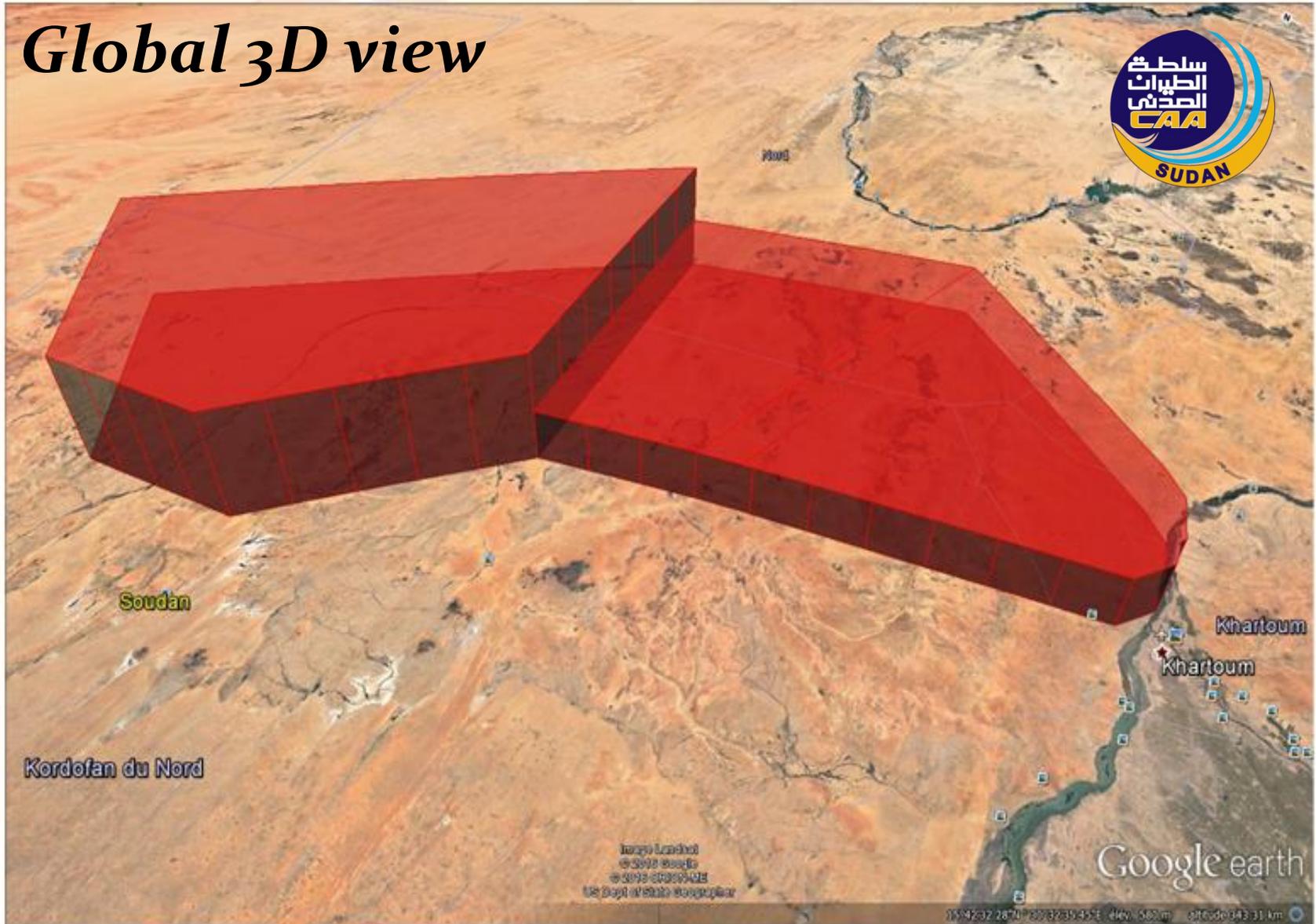
Military area P10

➢ shape and location of the prohibited area P10 have been deeply modified.

➢ It is now divided into 3 parts:

➢ P10 A, P10B P10 C

➢ Both volumes P10A &P10C are no longer prohibited cause it can be used above FL 285

Military area P10 (new shape)

Former P10 B

P10C
GND/FL285

P10A
GND/FL285
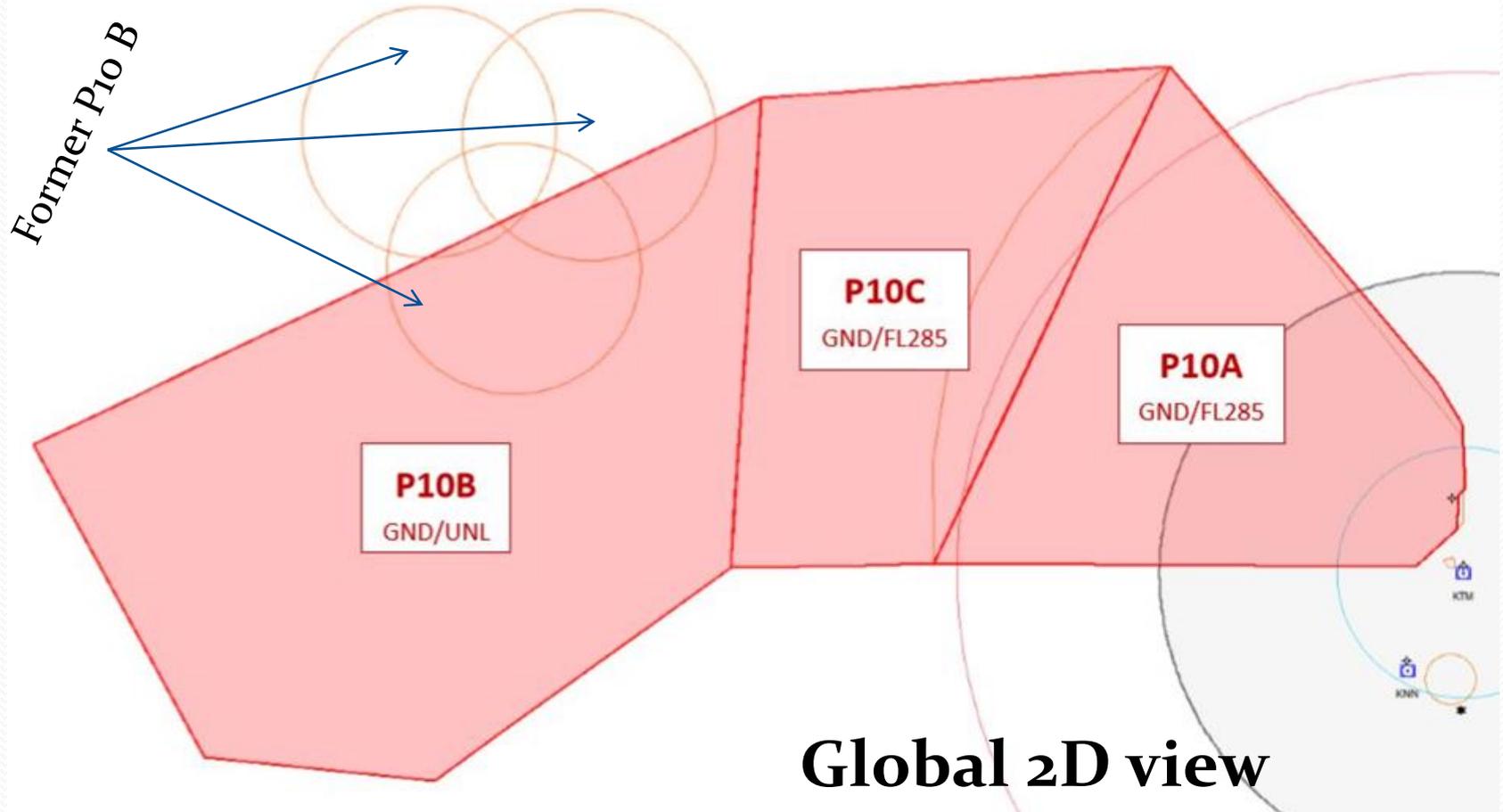
P10B
GND/UNL

Global 2D view

Global 3D view

Training Activities (P10B)

- To meet the training requirements of the Sudan air force, sufficiently large portions of airspace are kept in reserve for military priority use (P10B).

- According to the (LOA) military airspace user opens this airspace and makes it available to other users for those periods of time during which no military activities are taking place.

- Sudan Registered military air traffic is to be given priority in the utilization of published TSAs.

Military area(P10s)

Military area P10s

Vertical limits		
	Lower	Upper
P10A	Ground	FL285
P10B	Ground	Unlimited
P10C	Ground	FL285

LETTER OF AGREEMENT

- The purpose of this agreement is to define the policies and procedures to be applied between Civil Aviation Authority (SCAA) and the Military Aviation Authority to maintain and improve flight safety and to promote the flexible use of airspace (FUA) within Khartoum Airspace.

Current Network
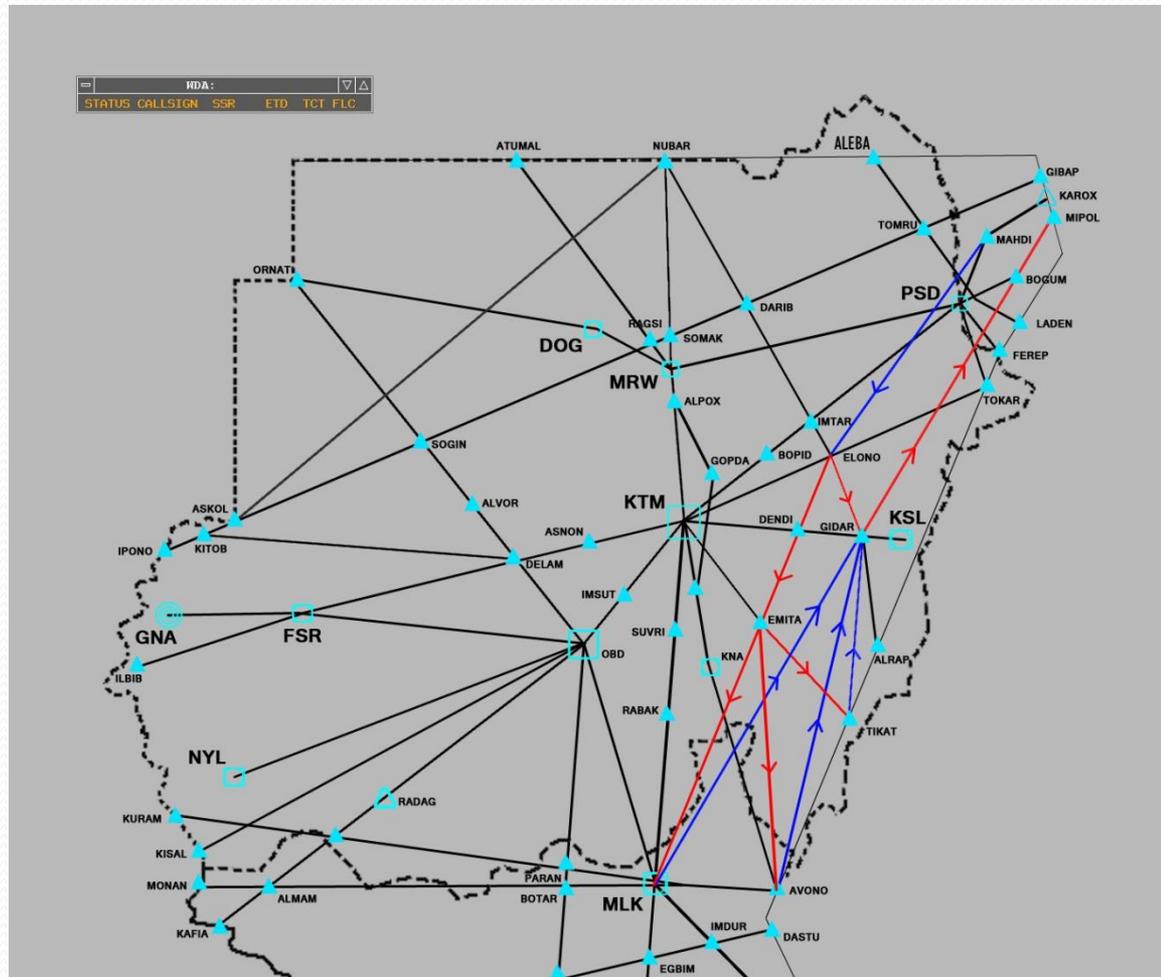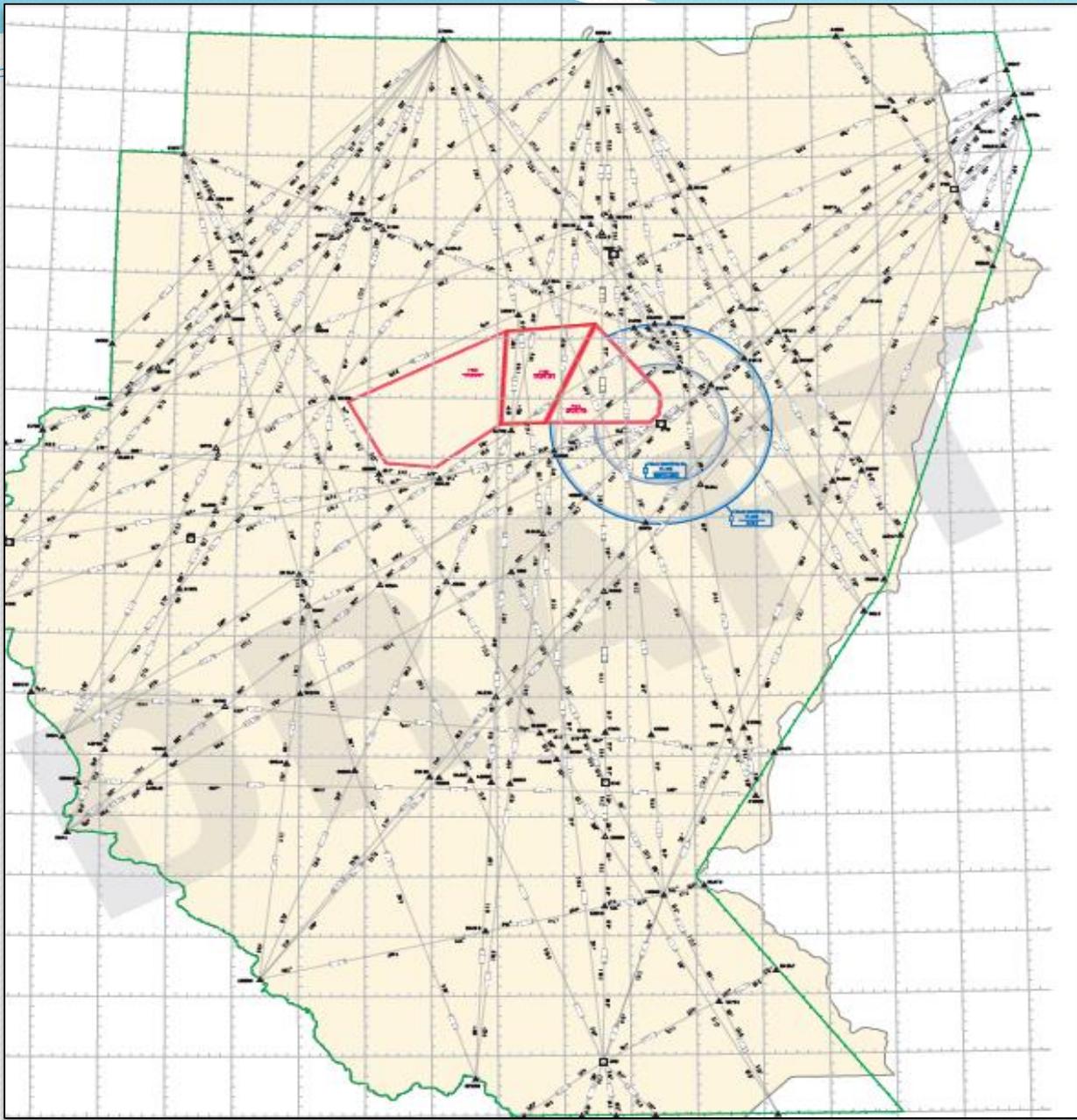
New RNAV routes network

- **Main goals for the airlines:**

➤ Save flight time and fuel consumption by reducing distance.

➤ Have several options for flight planning.

➤ Improve flight plan adherence by formalizing direct routes usually cleared by the controllers.

➤ Satisfy most of the requests of the airlines.

New RNAV routes network

- **Main goals for Sudanese ATCOs:**

➤ Decongest hotspots as much as possible.

➤ Split bidirectional routes by creating unidirectional routes as much as possible.

➤ Formalize direct routes usually cleared by the controllers.

➤ Have a network that can answer almost all requests .

First step of Implementation

- 42 new RNAV routes added to the existing conventional network.

- 12 are unidirectional routes.

- RNAV routes above FL285.

Conclusion

- Achievement of civil/military coordination

- Withdrawn of Muglad HSR 11 (AXOTI / KAFIA)

- Reduction of Damazin area HSP 8 from 40 NM to 20 NM

- Permission to fly above fl 285 over P10A – P10C