

UDAN

Ude Desh ka Aam Naagrik



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Disclaimer

In line with the evolving nature of the scheme, it is clarified that there may be certain operational deviations from the processes and procedures defined in this manual and/or the Scheme document.

These deviations have been evaluated and approved on a case-by-case basis through a defined approval mechanism.

Foreword

Though India had been experiencing significant growth in the aviation sector, air traffic was mostly concentrated amongst six metros whereas many regions craved for air connectivity. This skewed development of air connectivity would create disparity in growth, if not addressed appropriately. In view of above, Regional Connectivity Scheme (RCS)-UDAN (*Ude Desh ka Aam Nagrik*) was conceived by the Ministry of Civil Aviation (MoCA) to promote regional air connectivity by making flying affordable for the common citizen. The central idea of the scheme is to encourage airlines to operate flights on regional and remote routes through enabling policies and extending incentives. UDAN is first-of-its-kind scheme globally, designed to jump-start the regional aviation market. The first UDAN flight was launched by Hon'ble Prime Minister on 27th April, 2017 between Shimla to Delhi.

RCS-UDAN has immensely contributed domestic aviation to register growth since 2017. Aviation has the economic multiplier of 3.1 and employment multiplier of 6. Promoting air connectivity to under-served and un-served regions would thus provide impetus to the economy of regions and contribute to more equitable and inclusive growth.

As on 31st October, 2021, UDAN had operationalized 389 routes connecting 54 Airports, 6 Heliports and 2 Water Aerodromes. Indeed, UDAN is contributing towards India's overall transformation.

We are happy to inform that the framework of UDAN has been captured in this manual which would be useful for the stakeholders as well as the policy makers. The UDAN Manual is intended to act as the primary document required for implementing scheme through various processes. It also demarcates the roles and responsibilities of various committees under RCS to prevent any duplication of work and ensure efficiency towards the execution of this transformational scheme.

We wish and hope that the journey of UDAN becomes a significant milestone in India's development story.

Team UDAN

GUIDANCE:

Shri Jyotiraditya M. Scindia
Union Minister of Civil Aviation

Gen. Dr. V. K. Singh (Retd.)
Minister of State, Ministry of Civil Aviation

Shri Rajiv Bansal
Secretary, Ministry of Civil Aviation

COMPILED WITH THE CONTRIBUTION OF UDAN TEAM:

Ministry of Civil Aviation

Smt. Usha Padhee, Joint Secretary
Smt. Garima Singh, Joint Secretary
Shri Umesh Bhardwaj, Under Secretary
Shri Dharmendra Kumar, Section Officer
Shri Swami Nath Dwivedi, Consultant

RCS Cell, Airports Authority of India (AAI)

Shri Anil Gupta, ED (RCS)
Shri M. Yadaiah, GM (RCS)
Flt. Lt. Akash Deep Mathur, GM (RCS)
Shri Jagbir Singh, Jt. GM (RCS)
Shri Sanjiv Rohil, AGM (RCS)
Shri Pradeep Kumar, Principal Consultant

Knowledge Partner: Deloitte Touche Tohmatsu India LLP (DTTILLP)

1. Executive Summary

1.1. RCS-UDAN – a game changer in the aviation sector

When RCS-UDAN was being formulated in 2015, it was seen that air transportation in India had grown significantly over the past two decades. However, the growth had largely been concentrated on select routes and sectors. As a result, various parts of the country were devoid of market-generated supply of air services. Fostering air connectivity to under-served and un-served regions can provide impetus to economic development of such regions and contribute to a more equitable and inclusive growth in economic activity across the country.

Air Services in particular help link areas not adequately connected through surface transportation. These include parts of the country with difficult terrain (hilly), islands, and areas with security concerns. Air transportation offers some clear benefits over surface transportation – reduced travel time and enhanced comfort, contributing to enhanced quality of life.

Therefore, providing regional air connectivity has been an important policy goal for the government. Such services not only cater to the latent consumer demand for convenient travel, but also make businesses and trade more efficient, help unlock India’s tourism potential, enable fast medical services in remote areas, benefiting the economy as a whole and promoting national integration. Building connections to under-served and un-served regions also fosters a networked economy as regional passengers move to the national aviation network, fostering growth of the aviation sector as a whole.

In view of the above, the Regional Connectivity Scheme, UDAN (*Ude Desh Ka Aam Nagrik*) was conceptualized by the Ministry of Civil Aviation (MoCA) to promote regional air connectivity by making flying affordable for the common populace. The idea was to put small-town India on the aviation map by encouraging airlines to operate flights on regional routes. UDAN is a first-of-its-kind scheme globally, designed to jump-start the regional aviation market by improving the viability of unserved regional routes through a market-based mechanism.

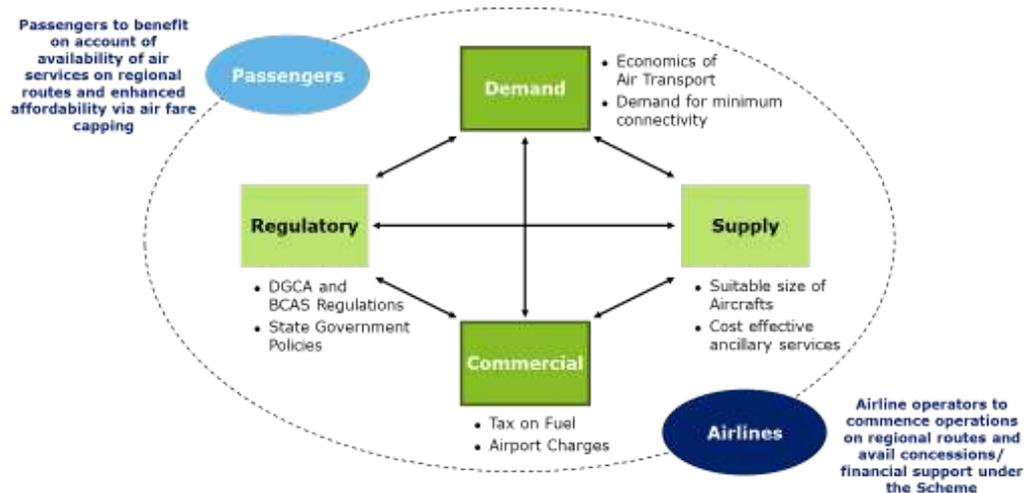
UDAN has been strengthening the overall aviation network through affordably priced air travel. Passengers have benefitted from enhanced air services and affordable air tickets; airlines have seen more traffic on their metro and non-metro routes and several regions have experienced faster economic growth. Thus, UDAN is acting as a meaningful tool to India’s overall transformation.

1.2. RCS-UDAN, a transformational Scheme

1.2.1. Unique Working Model

During the formulation of UDAN, various aspects of air travel, as depicted in the figure below, were studied. Out of these, the Scheme sought to specifically address and focus on the demand and commercial factors. Further, the process took cognizance of various issues including the viability / sustainability of routes, nature and extent of benefits, affordability for passengers and infrastructure development through extensive consultations with stakeholders / references to best international practices.

Figure 1: Issues impacting regional air connectivity



The scheme operates at three levels to ensure sustainability of regional routes:

- Reducing operating costs pertaining to operating flights on regional routes,
- Providing a market discovered subsidy for some of the seats deployed on these routes,
- Providing a three-year exclusivity period.

Limited government support – The objectives of the Scheme were envisioned to be achieved via monetary (Viability Gap Funding (VGF)) and non-monetary benefits provided to the airline operators. These benefits are not provided in perpetuity but only for a period of 3 years. The airlines are expected to develop the routes during these 3 years and start commercial operations after the support period.

Further, monetary support, if opted by the airline operator, is only provided for 50% of the aircraft capacity for most of the aircraft deployed on regional routes. Lastly, only the seats for which the monetary support is provided are subject to regulated/capped airfares. The dual objective behind this

formulation is to provide an opportunity to airline operators to experiment with the airfares / develop the market and at the same time optimize VGF outlay of the government.

Cooperative Federalism - State-level coordination committees were constituted to extend various concessions and benefits to airline operators under the Scheme and to monitor airport infrastructure development. Thirty-one states and UTs have signed MoUs with MoCA and AAI to become valued stakeholders in the success of UDAN. Certain states such as Uttar Pradesh and Karnataka have even introduced their own schemes, building upon the foundation laid by UDAN, to further enhance regional connectivity.

Capped airfares – Airfares on the seats on which VGF is provided are capped at affordable rates, as determined by the government.

Transparent, competitive bidding – The Scheme uses a transparent, two-step bidding process to select the airline operators. A market-based approach is used to establish the subsidy level within the pre-specified VGF caps. The VGF is capped based on the operating cost of a route estimated from actual industry data for different types of aircraft on routes of different stage lengths. Only qualified bidders are allowed to bid for a route, which is then awarded to the airline operator that quotes the lowest VGF on a per seat level.

Technology enabled processes - A web-based mechanism has been adopted to efficiently implement the Scheme. It is supported by use of video conferencing for monitoring airport infrastructure development and management information systems to collect and analyse data that support proficient decision-making.

Sustainably funded Scheme - Geographically large countries like the US, Canada, Brazil and Australia were supporting regional connectivity through public funding. UDAN was a first-of-its-kind scheme, which funds regional connectivity through the levy of a small fee on the flights operated on certain categories of domestic routes.

1.2.2. Continuous Modifications / Course Corrections

While UDAN was formulated with a first-of-its-kind working model to begin with, the true innovation of RCS-UDAN lies in its ability to dynamically transform itself in a changing market scenario to ensure that it remains amenable to its original objectives. Over the years, depending upon priorities of the government, stakeholder feedback as well as market response and participation patterns, there have been a number of additions

/ modifications in the UDAN scheme in order to facilitate the growth of the aviation sector in a targeted manner.

For instance, under UDAN 2, there was enhanced focus on hilly areas, and North Eastern and island states to enhance connectivity to these under connected regions. Further, there was also an effort to further facilitate helicopter operations to aid connectivity to remote areas not easily accessible by fixed-wing aircraft.

Similarly, under UDAN 3, seaplanes operations were incorporated in line with the initiative of the government to develop water aerodromes. Moreover, to facilitate the allied sector of tourism, UDAN introduced the concept of Tourism RCS (T RCS) Routes in collaboration with Ministry of Tourism (MoT). The intent was to boost tourism and connect iconic tourist destinations as per the aspirations of the MoT.

Additionally, to facilitate international air connectivity from certain states, the International Air Connectivity Scheme was also introduced and incorporated within the broader framework of RCS-UDAN.

MoCA also incorporated a number of measures under UDAN 4 such as enhancement of VGF support for smaller aircraft, inclusion of State RCS (S RCS) routes in consultation with various state governments as well as a focus on shorter routes to facilitate the development of regional hubs. Relaxations around types of eligible operators have also been introduced, to facilitate expeditious operationalization of routes under this round.

Further, as a special round under UDAN 4, in UDAN 4.1 it was decided to focus on awarding and operationalizing cancelled routes of past UDAN rounds as well as routes specifically requested by State governments, Ministry of Tourism and Ministry of DONER. Additionally, helicopter and seaplane routes continued to be prioritized.

1.2.3. Lifeline UDAN

With the onset and spread of the COVID-19 pandemic that necessitated a nationwide lockdown in March 2020, domestic and international flight operations were almost entirely suspended. This unprecedented situation presented an unprecedented set of challenges. To help mitigate the effects of this adverse situation, the Lifeline UDAN was conceptualized in March 2020.

Creating a hub and spoke model to aid in network planning, Lifeline UDAN facilitated continuous movement of essential medical cargo across the country, especially to North East, remote and hilly regions. It also involved

continuous engagement and collaboration with stakeholders across the industry including IAF, Air India, Alliance Air, Pawan Hans and private helicopter and airline operators along with state governments.

The key factors that led to the success of Lifeline UDAN were a designated and well-balanced response team, continuous engagement and support from external stakeholders as well as the integration of technology. These have been further elaborated upon in section 5.5.

1.2.4. Krishi UDAN

To assist farmers in transporting agricultural products so that it improves their "value realization", especially in the north-east and tribal districts, Krishi UDAN was conceptualized and finally operationalized in December 2020. Krishi UDAN has been launched on both National and International routes.

This key initiative included convergence between Operation Greens Scheme and Krishi UDAN Scheme, with subsidy of 50% on domestic air freight and 50% on Terminal, Storage and Processing (TSP) at airports on 41 eligible fruits and vegetables when airlifted from 12 NER and Himalayan States/ UTs.

The subsidy could be claimed online by the airlines through SAMPADA portal. The ITC (HS) codes (Indian Trade Clarification based on Harmonized System of Coding) of 41 eligible crops, along with the Hindi translation for ease of filling in details in Master Airways Bill (MAWB) has also been issued.

Air India/ Air India Express, Indigo, SpiceJet/Spice Express, Go Air, Air Asia, Vistara and Blue Dart Aviation have all participated in the scheme transporting the goods to a variety of locations across India. The agri-products have also been delivered to international destinations such as the United States of America, the Middle East and Europe.

Approximately, 1000 MT in NER and total 70000 MT pan-India were handled by AAI Cargo Logistics and Allied Services India Ltd. (AAICLAS) alone in the Krishi UDAN Scheme during FY 2020-21. Based on an infrastructure gap analysis and an assessment of the demand and supply scenario, AAICLAS also developed new infrastructure such as the expansion of its Air Cargo facility at Indore airport and the creation of a dedicated cold storage facility in its cargo terminal at Varanasi for the safe handling of perishable cargo. Going forward, airports in the Himalayan and North East Regions are the focus area for the development of new Air Cargo facilities to enable the air transportation of these perishable goods.

1.3. Notable Outcomes

So far, MoCA has successfully completed three rounds of bidding under the UDAN Scheme, while the fourth is being implemented in phases with the first phase nearing conclusion. UDAN has witnessed an excellent response from industry stakeholders, especially the airline operators and the state governments.

- Since independence, there were only 76 airports in India that had scheduled commercial flights till commencement of RCS-UDAN. Now, under the aegis of UDAN, **within a span of about ~4.5 years (till 31st October, 2021), work has been initiated to provide scheduled connectivity to 104 unserved / underserved airports, 36 helipads and 14 water aerodromes.**
- Out of these, routes connecting **54 airports, 2 water aerodromes and 6 helipads have already been operationalized.**
- Out of the approximately **948 routes awarded** under UDAN, **389 routes** have already been operationalized.
- Further, regional air connectivity has a **positive impact on the economy.** The direct and indirect benefits of the scheme have not been restricted to the aviation sector alone. Some of the overall benefits of air connectivity are highlighted below:
 - a. **Direct Effect** – Employment generated by airline and airport operations, aircraft maintenance, air traffic management and activities that directly serve the passengers such as baggage handling and ground-handling services.
 - b. **Indirect Effect** – Airline operations stimulate activity across the entire aviation supply chain in a region. This includes aviation fuel suppliers, construction companies for airport construction, inter-modal transport services such as taxis and buses from airports, goods sold in airport retail outlets, among others.
 - c. **Induced Effect** – This refers to the direct and indirect impact of spending by people employed by airlines and airports.
 - d. **Catalytic Effect** – The contribution of air connectivity to economics of other industries is characterized as catalytic or spin-off effect. It is this effect, which creates significant additional value to the economy of a region over and above the investments required for establishing air connectivity.

- The development of the aviation sector has a multiplier effect on the economy. As per an ICAO study - “Economic benefits of civil aviation: ripples of prosperity”, the output and employment multipliers of aviation are 3.25 and 6.10 respectively. This implies that every INR 100 spent on air transport contributes to INR 325 worth of benefits; and every 100 direct jobs generated in air transport sector result in 610 jobs generated in the rest of the economy. In fact, the study attributes over 4.5% of the global Gross Domestic Product (GDP) to civil air transport.
- **Lifeline UDAN:** Under the Lifeline UDAN initiative, 588 flights have been operated transporting almost 1000 tonnes of voluminous essential cargo covering an aerial distance of about 3,00,000 km.

2. Background / Inception of UDAN

2.1. Civil aviation landscape prior to UDAN

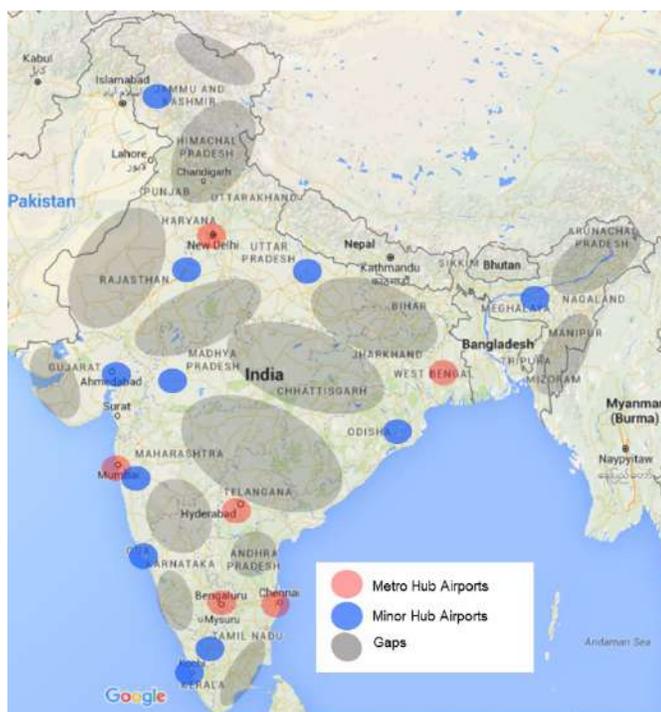
In 2013, a study undertaken by Ministry of Civil Aviation on regional and remote area connectivity in the country highlighted that air connectivity was concentrated on select routes and sectors, particularly in the large cities. This was further corroborated by an analysis of the civil aviation landscape prior to RCS which revealed that out of the 85 million (Source: AAI) departing domestic air passengers during FY2015-16, around 65% of the passenger traffic and 61% of the aircraft movement (ATM) was concentrated at the six metro cities – Delhi, Mumbai, Hyderabad, Chennai, Kolkata and Bangalore. Of the 100 airports operated by AAI as at the end of FY2015-16, the top 18 airports facilitated 86% of passenger traffic and 81% of ATM.

Share of traffic at large cities, FY2015-16

Airport set	Share of passenger traffic	Share of ATM
Six metro airports (connecting more than 20 airports in the country, depicted in red)	65%	61%
Top 18 airports (connecting to 8 or more airports or offering more than 20,000 departing seats per week, depicted in blue)	86%	81%

As observed, the operational airports were unevenly distributed across the country. While the southern and central parts of India were better connected, connectivity remained to be established for the northern and the eastern parts. For instance, Arunachal Pradesh, Haryana and Sikkim were unconnected by air. Due to the difficult hilly terrain, the north-eastern states lacked sufficient road and rail infrastructure, underscoring the necessity of air connectivity. Yet, they

Figure 2: Gaps in air connectivity across the country



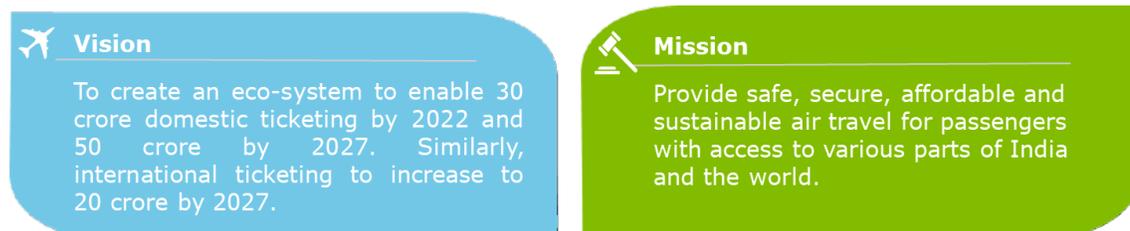
suffered from poor provision of aviation infrastructure as well as inadequate airline routes, with the exception of Assam. This inadequate connectivity was also a constraint on accelerated economic development.

2.2. Government's thrust on promoting regional connectivity

In light of the above, the government intended to promote the growth of Indian aviation sector in a significant manner.

Subsequently, the Ministry of Civil Aviation (MoCA), Government of India released the National Civil Aviation Policy 2016 (NCAP 2016). NCAP envisioned the creation of an ecosystem to make flying affordable for the masses. NCAP also laid down a target of 30 crore domestic ticketing by FY 22 and 50 crore domestic ticketing by 2027.

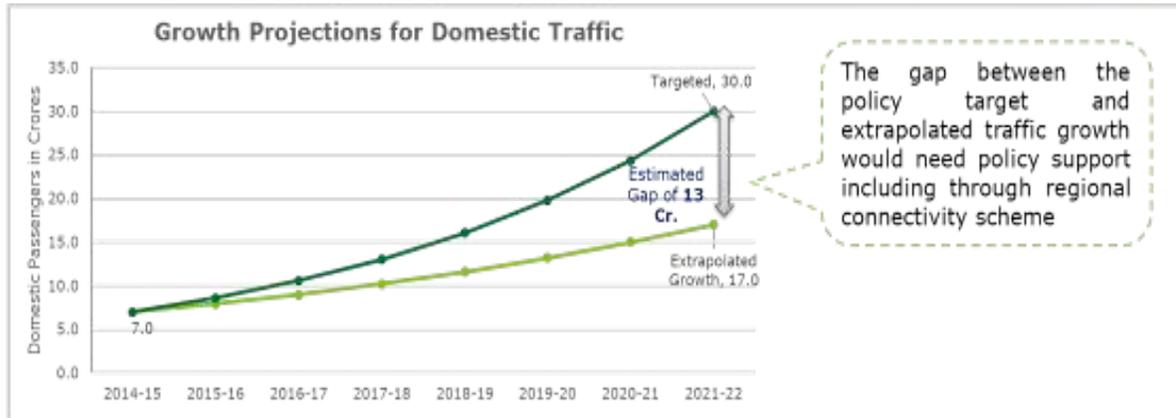
Figure 3: Vision and mission as per the NCAP 2016



3. Regional Connectivity Scheme (RCS) and its formulation

A simple extrapolation of the growth rate of passenger traffic prevailing in 2015 indicated that only about 17 crore ticketing could be generated by 2022 without any intervention.

Figure 4: Growth Projections for Domestic Traffic (2015-2022)



Besides, traffic growth in the large cities alone could not achieve the ambitious vision of the policy.

To address this gap, a policy intervention was needed; one that could whet the demand for air travel in the country's hinterland. Boosting regional air connectivity offered the added benefit of feeding fresh traffic to the existing established air route network. To this end, MoCA envisaged the formulation of Regional Connectivity Scheme (RCS), popularly known as UDAN (*Ude Desh ka Aam Aadmi*) scheme for Indian airports, to support airline operators through

- Concessions by Central & State Governments and airport operators; and fiscal (viability gap funding or VGF) support, if required, to ensure commercial viability of regional routes and;
- Revival of unserved and underserved airports through fiscal support to ensure adequate infrastructure development to support the growth target

In line with NCAP, RCS has the following objectives:

Figure 5: Scheme Objectives

3.1. Methodology for Scheme Formulation

MoCA adopted a methodical approach to formulate and develop the scheme and its key features as illustrated below:

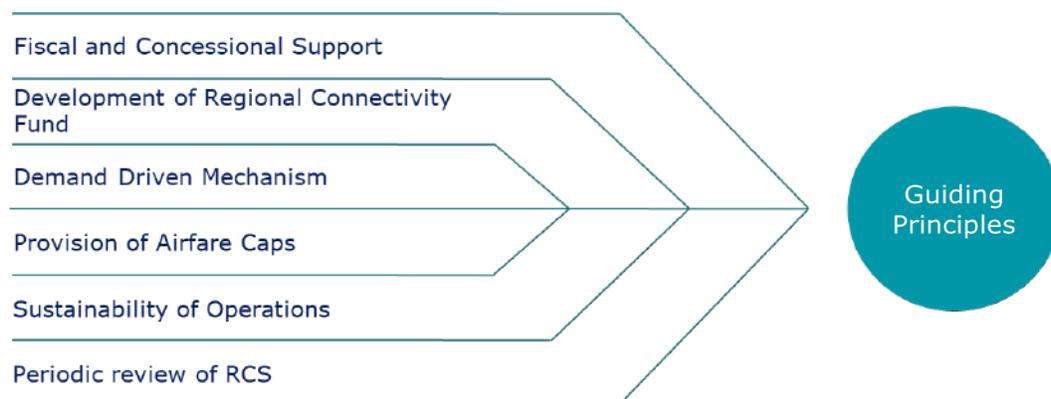
Figure 6: Framework for Scheme Formulation

- **Conceptualize:** Formulating the broad outline & guiding principles of the Scheme based on a review of NCAP.
- **Develop:** Developing options for key scheme features including nature and tenure of support, bidding mechanism, exclusivity period etc. based on study of international examples and analysis of Indian aviation industry.
- **Consult:** On boarding and engaging with stakeholders across the aviation sector value chain in order to seek their inputs on relevant aspects and incorporate the same into the Scheme.
- **Finalize:** Based on stakeholder inputs, secondary research and inputs provided by AAI, the final version of the Scheme was developed which was a cohesive amalgamation of aspects guided by the Government as well as aspects that were market-determined.

3.1.1. Conceptualize

Broad contours of RCS as envisaged by the NCAP formed the basis of developing the guiding principles of the scheme as elaborated below:

Figure 7: Guiding principles of the Scheme



Provision of fiscal support and various concessions under the scheme: To incentivize the airline operators to fly RCS flights, it was necessary to bring down the cost of operations.

- a. **Central Government** is at the forefront of promoting remote and regional air connectivity by intervening through various support schemes, regulatory and policy measures. Consequently, the following support measures are offered by the central government:
 - i. Excise Duty at a concessional rate of 2% is levied on ATF purchased by Selected Airline Operators from RCS Airports
 - ii. Selected Airline Operators have the freedom to enter into code sharing arrangements with both domestic as well as international airlines.
 - iii. Reimbursement of the GST component on airfares of RCS Seats sold in an RCS Flight at actuals from the RCF (for UDAN 1-3).
- b. **State Governments** constitute a key category of stakeholders of the scheme as the economic benefits of air connectivity flow directly to the respective states. Accordingly, NCAP mandated provision of certain concessions by State Governments, for the respective states to be eligible for operationalization of RCS. Mobilizing such support took the form of MoUs that were signed with various State Governments. Consequently, following concessions are offered by state/UT governments under the scheme:

- i. Reduced VAT on Aviation Turbine Fuel (ATF) at RCS Airports located within the state to 1% or less for a period of 10 years;
 - ii. Provision of minimum land, if required, free of cost and free from all encumbrances for development of RCS Airports along with provision of multi-modal hinterland connectivity (road, rail, metro, waterways, etc.) as required;
 - iii. Provision of security and fire services free of cost at RCS Airports;
 - iv. Provisions of electricity, water and other utility services at substantially concessional rates at RCS Airports; and
 - v. States other than North-Eastern States (NER), and Union Territories (UT) provide 20% of the VGF share determined pursuant to this Scheme, while for NERs and UTs, the contribution is 10%.
- c. **Airport Operators** further incentivize air transportation services necessary to provide air connectivity in regional and remote areas by extending the following exemptions/relaxations:
- i. No Landing Charges, Parking Charges on RCS Flights;
 - ii. No levy of any Terminal Navigation Landing Charges (TNLC) on RCS Flights;
 - iii. RNFC levied by AAI on a nominal basis @ 42.50% of Normal Rates for RCS Flights. Normal Rates refer to applicable rates specified by AAI without any discount or concessions;
 - iv. Selected Airline Operators allowed self-ground handling for operations under the Scheme at all airports.

Development of Regional Connectivity Fund (RCF): A spin-off benefit of connecting the unserved/underserved regions comes in the form of additional traffic to the existing commercially viable routes, such as Category I routes. This is because of the fact that as regional airports connect with the large city airports, a fraction of the regional passengers would take connecting flights and use airports / airport services that are not provided at concessional rates under RCS. Accordingly, NCAP provided for a levy to be imposed on flights (per departure basis) on all domestic routes other than Category II / Category IIA routes, RCS Routes and flights using small aircraft (under 80 passenger seats) irrespective of routes. The levy is deposited in the Regional Connectivity Fund (RCF) and is used to fund VGF under RCS. The RCF thus channels funds generated from within the sector

to stimulate further development of the sector. Recognizing the various benefits of regional air connectivity, airlines voluntarily agree to the RCS levy. Furthermore, for balanced regional growth, equitable VGF allocations under the scheme have been made to ensure regional connectivity across the five geographical regions of the country viz. North, West, South, East and North-east. In addition, the total VGF approved for a particular airline operator under the Scheme has also been capped to an annual limit in order to limit large systemic exposure to any single airline operator.

Innovative working model of UDAN with a demand driven mechanism:

MoCA recognized that the airline operators are best placed to determine the routes / networks that they may want to operate under RCS since a regional route that integrates well with the existing operations of an airline operator would need less viability support than another regional route that does not integrate well. Accordingly, the development of regional routes was left to market forces such that the airline operators would undertake assessment of demand on regional routes, deploy appropriate capacities etc. In the competitive bidding process, the airline operators propose the regional routes that they are interested to operate and seek VGF, if any. Based on the outcome of the competitive bidding, they are awarded an exclusive right, for a limited duration, to operate RCS routes.

Provision of airfare caps: To provide affordable travel options to the masses, the airfare for an air distance of 500 km (approximately one hour of journey) on a fixed wing aircraft or for a 30 minute journey on a helicopter has been capped at INR 2,500, indexed primarily, to inflation, with proportionate pricing for routes of different lengths and flight duration. This is only applicable on 50% of the flight capacity (RCS seats) that is subsidized by VGF, while the remaining seats (Non-RCS seats) are sold by airlines at market-determined prices. This provides an opportunity to airlines to experiment with airfares and develop a market for their services.

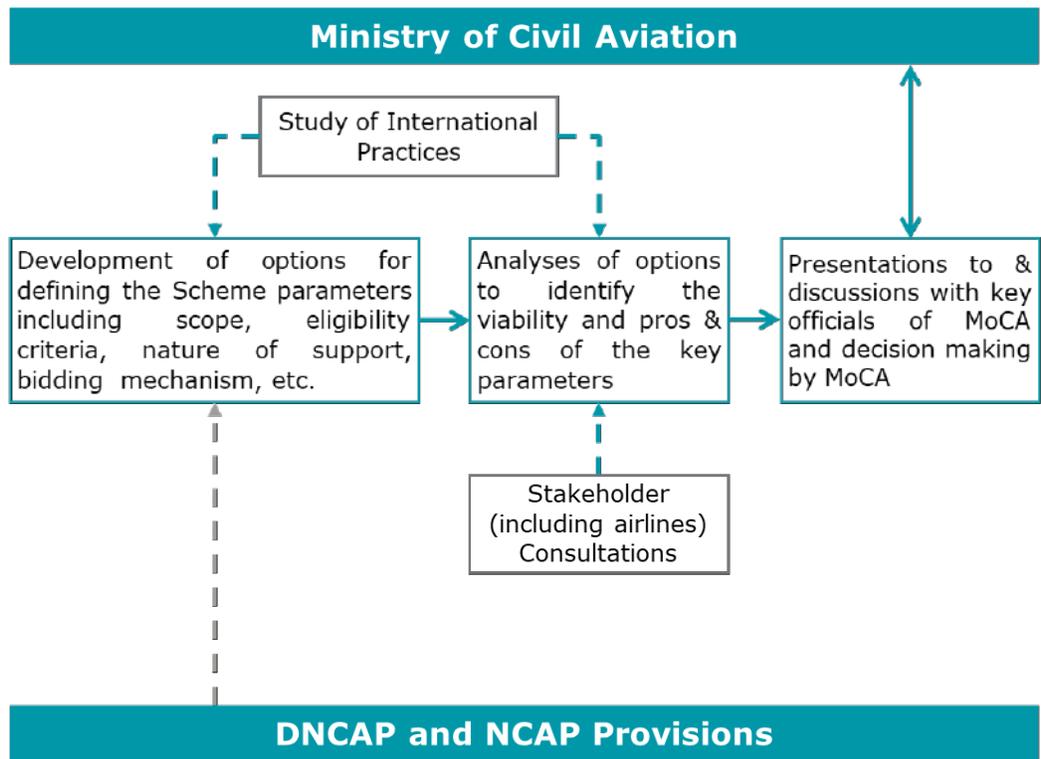
Promoting sustainability of operations: A key guiding principle is to encourage long-term sustainability of flight operations under RCS, such that the connectivity established is not dependent on VGF in perpetuity. Hence, VGF support has been proposed to be provided for a limited period to facilitate / stimulate regional air connectivity to the unserved / underserved regions. Additionally, UDAN permits airlines to sell remaining 50% of flight capacity (Non-RCS seats) at market-determined prices. This provides an opportunity to airlines to experiment with airfares and develop market.

Periodic review of RCS: Acknowledging the fact that market dynamics evolve over time, MoCA undertakes periodic review of the scheme provisions as and when necessary for efficacy in accomplishment of objectives.

3.1.2. Develop and Consult

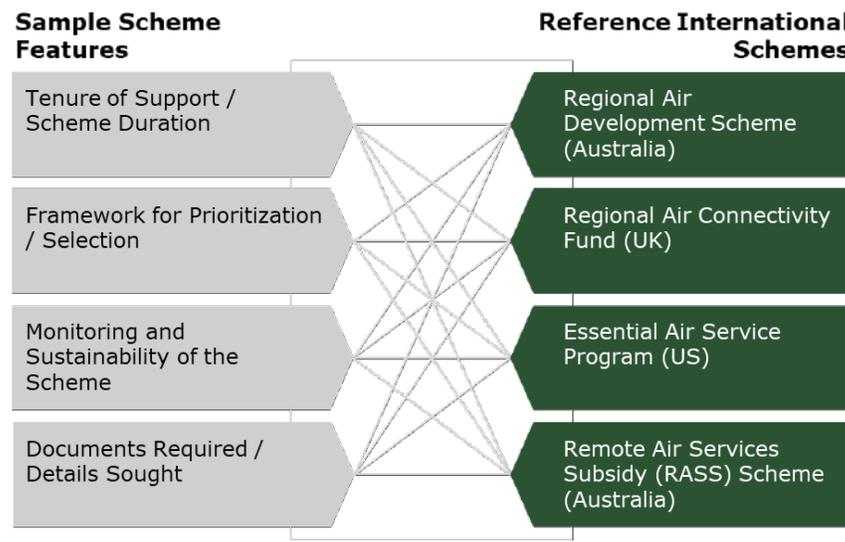
After defining the guiding principles, a three-step approach was adopted to devise the scheme features, as defined below:

Figure 8: Methodology for devising the scheme features



Secondary Research, which included a review of a wide range of literature pertaining to similar programs aimed at enhancing air connectivity already implemented worldwide along with the various scheme parameters adopted in these schemes such as implementation mechanisms, nature of support, tenure of support, prioritization framework, sustainability, etc.

Figure 9: Review of literature pertaining to similar schemes globally



Strategic analysis of various identified options for each of the scheme features was then undertaken to understand the pros and cons of each option in the context of the Indian landscape by analyzing the nuances of the Indian aviation market including the diverse operating models of airlines and airports, infrastructure facilities, enabling policy and regulatory regime etc. This analysis was undertaken for several Scheme features including tenure of support, provision of exclusivity, bidding mechanism and bidding parameter.

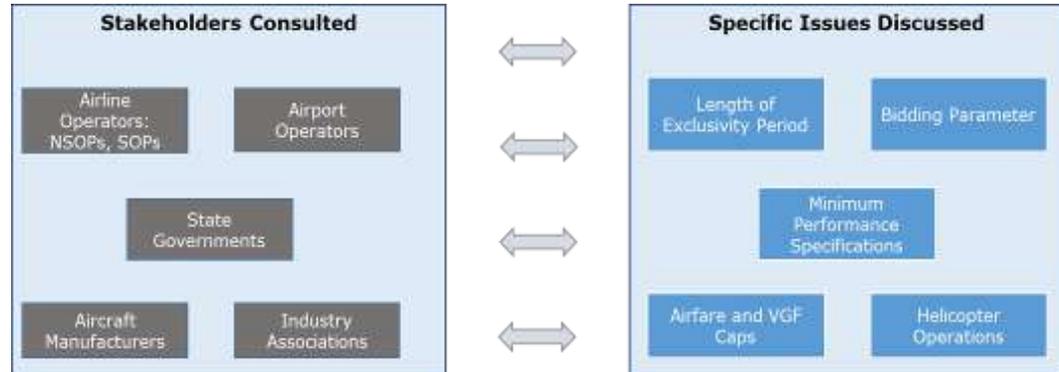
Figure 10: Various options considered for different Scheme features

		Options for Consideration		
Scheme Features	Tenure of VGF Support	Period of 3 years	Period of 10 years	
	Provision of VGF support for specified flight capacity / number of seats	Support extended for all seats in a flight	Support extended for some seats in a flight	
	Provision of Exclusivity	No Exclusivity	Exclusivity for <= 3 years	Exclusivity for >3 years
	Bidding parameters governing selection of airline operators	One-Stage	Two-Stage	
	Bidding Mechanism	VGF per RCS Seat	Total VGF per week	Combination of VGF per RCS Seat and Total VGF per week

Stakeholder Consultations were then undertaken in a transparent manner on the multiple proposed strategic options and scheme parameters to finalize the Scheme features. This included consideration of various issues

and consultations with wide range of industry stakeholders such as airline and airport operators, state governments and other ancillary service providers.

Figure 11: Types of stakeholders consulted regarding different Scheme features



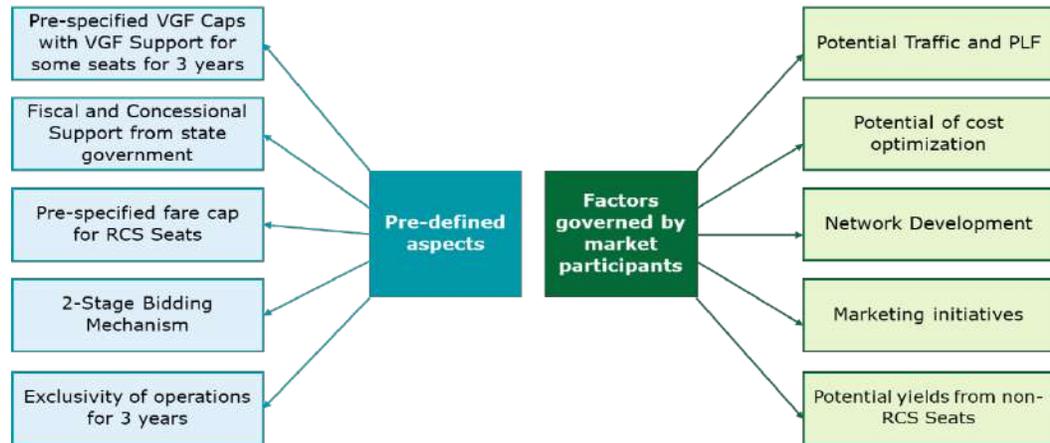
Some of the sample stakeholder comments have been represented below:

- “Length of exclusivity of period should be on higher side as the operator need suitable time period for settling of the operation and maturing the route.” – Airline Operators
- “If the route experiences a rapid growth, other operators should be able to compete. This will be in the strong interest of the consumer.” – Airport Operators and Aircraft Manufacturers

3.1.3. Finalize

Consequently, a cohesive amalgamation of aspects guided by the government and aspects to be governed by the market culminated into development of the final version of the scheme subject to a periodic review of scheme provisions, necessary for maintaining efficacy in accomplishment of its objectives and in line with the ever-evolving market dynamics.

Figure 12: Snapshot of finalized Scheme features



4. Implementation of RCS-UDAN

The Ministry invites proposals from interested airline and helicopter operators for starting operations on hitherto un-connected routes. The operators can seek Viability Gap Funding in case there is a difference in the cost of operations and estimated revenues as assessed by the bidder. All such proposals are then offered for counter bidding through a transparent mechanism and the routes are awarded to the participant quoting the lowest VGF requirement. The operator submitting the initial proposal however has a Right to Match (RTM) for matching the lowest bid in case the initial bid is within 10% of the lowest bid. The successful bidder (Selected Airline Operator) would then have exclusive rights to operate the route for a period of three years. Such support would be withdrawn after a three-year period, as by that time, the route is expected to become self-sustainable and market linked.

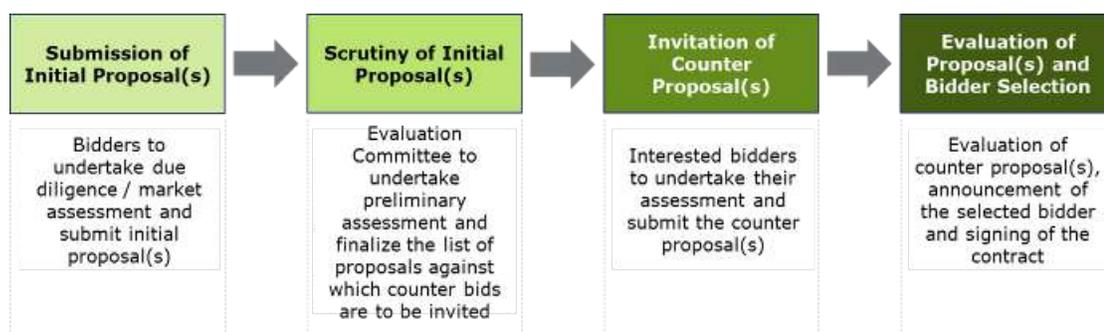
The Selected Airline Operator has to provide 50% of the flight capacity as RCS Seats (subject to a minimum of 9 and a maximum of 40) for operations through fixed wing aircraft and all passenger seats up to 13 as RCS Seats on the RCS Flights for operations through helicopters.

There are certain features of the Scheme, which aid MoCA in effective implementation. These include:

4.1. Transparent online / IT platform for the operationalization of the Scheme

The scheme follows a transparent two-stage e-bidding process by inviting interested bidders / airline operators to submit their initial proposals as per the provisions of the scheme and subsequently inviting counter proposals against eligible initial proposals. This is followed by the opening and scrutinizing of the technical bids, and subsequently financial bids, for initial proposals as well as counter proposals. The routes / networks are awarded to airline operators identified on the basis of the selection criteria specified in the scheme.

Figure 13: 2-stage e-bidding process



For the effective and transparent implementation of the scheme, a touch-point between the implementing agency (IA)/ MoCA and the various stakeholders was

required. Based on the study of global best practices, a web-based mechanism was found to be an efficient and robust way for the operationalization of the Scheme.

MSTC, a CPSE, was appointed for design and implementation of an e-portal for inviting initial and counter proposals by adopting a transparent and secure tender process. [<https://www.mstcecommerce.com/eprochome/rcs/>]

Further, the Implementing Agency (AAI) utilizes the Airport Information Management System (AIMS), an Enterprise Application, which covers the entire gamut of operations in any airport from finance, logistics, business performance, infrastructure and facilities management. It facilitates raising of bills, disbursement of VGF claims and other administrative functions for RCS Airports.

RCS Cell monitors the progress on AIMS Abridged Version with key features for RCS Airports and Heliports, including modules such as ATC, Aeronautical Billing & Admin to import the operational data, raise the invoices and supplementary bills of implementation of AIMS for RCS Airports. AIMS is accessible through internet as well as AAIMPLS Network. Thus, it can be used either from local airport or from any other locations may be decided by the competent authority.

Airline operators are given a provision to login into the AIMS application where they can view and update information regarding the flight movements operated by them. The system captures dynamic information of flight movements based on the inputs from Airline operators. AMSS and Air Traffic Control Tower.

4.2. Stakeholder Consultation Events

To ensure smooth implementation of the Scheme for airline operators and state governments, MoCA conducts stakeholder consultation events from time to time. These events are in addition to the regular communications between stakeholders and MoCA/ AAI during the normal course of operations for the Scheme and include:

- Pre-bid meetings to take stakeholder inputs on the key features of the Scheme and finalise bidding documents after evaluation of their concerns.
- Progress review with stakeholders to assess operationalization of airports, awarded routes, challenges faced in implementation etc.
- Invitation to stakeholders to share their views / suggestions along with justification / rationale for the any changes prior to each new Round of Bidding under UDAN.

- Workshop for Stakeholders' of UDAN including State Governments / UTs, Selected Airline Operators, Airport operators, NSOP holders, Oil Companies, etc.
- Events like 'WINGS INDIA conducted every two years at Hyderabad "Sab Uden, Sab Juden" which created a unique platform as an enabler for the Aviation industry, States/UTs and other stakeholders to come together for making flying accessible to citizens across the country.

4.3. Periodic monitoring of airport infrastructure at state level

Regular interactions are conducted with state governments through video conferencing to monitor Airport Infrastructure and training of security personnel for smooth implementation of UDAN.

4.4. Robust internal governance process

- Detailed SoPs were developed for transparent Financial Management of Funds collected under Regional Connectivity Fund (RCF) through recovery of levy from major airlines and VGF disbursement as per Scheme to the selected Airline Operators.
- MoCA constituted a Bids Evaluation Committee and RCS Approval Committee to deliberate and decide on various implementation issues under the Scheme.
- Accounts for Regional Connectivity Fund are maintained by the RCS Cell and AAI that are audited by internal auditors and CAG.
- MoCA is also currently in the process of developing an UDAN Manual capturing the formulation of the RCS-UDAN Scheme, its evolution over the years and laying down various processes which are conducted for smooth implementation to serve as future reference.

4.5. Interface with the selected Airline Operators under RCS-UDAN

Interface of Airport Information Management System (AIMS) of AAI with Selected Airline Operators under UDAN in over 70% of Airports helps in generating operating data for the Airlines and its reconciliation for facilitating timely and accurate billing by the Airlines. Other Airports are in the process of upgrading their automated systems for linkage with AIMS.

4.6. Simplified regulatory requirements

New *Civil Aviation Regulations* (CAR) were issued by DGCA for Scheduled Commuter Operators under UDAN. Similarly, BCAS has issued revised guidelines covering security aspects. Further, DGCA and BCAS have reviewed

and simplified the licensing and security procedures to facilitate operationalization of remote area Airports, Helipads and Water Aerodromes. Moreover, heliport authorization CAR was issued by DGCA to facilitate helicopter services under UDAN.

5. Evolution of RCS UDAN over the years

With an objective to continuously improve the scheme, RCS-UDAN has evolved over the years taking into consideration the dynamic market conditions, changing priorities and objectives of the government, inputs from stakeholders, market response and participation patterns observed during the previous bidding rounds and implementation issues and limitations faced during such rounds. Consequently, RCS has evolved into a robust platform to help shape India's aviation sector over the years.

Figure 14: Evolution of UDAN over years



- Focus on priority areas and helicopter operations:** The Scheme evolved to provide additional incentives for operations in areas that are not adequately connected through surface transportation including parts of the country with difficult terrain (hilly), separated by large water bodies (islands) and areas with security (including Left Wing Extremists-related) concerns. These included Priority Areas like Jammu and Kashmir, Himachal Pradesh & Uttarakhand, North Eastern Region of India, Andaman and Nicobar Islands and Lakshadweep Islands. Additionally, it has been observed globally that helicopters play a critical role in providing connectivity to remote and inaccessible areas, shortening the delivery time in case of medical emergencies. The UDAN Scheme, therefore incorporated these aspects under UDAN 2.
- Inclusion of seaplane routes:** Considering the opportunity to drive air connectivity through seaplanes owing to the presence of lakes and dams in a number of remote areas, the scope of the scheme was expanded to include the operations through seaplanes in UDAN 3. This was further supported by development of multiple water aerodromes across the country.

- **Inclusion of tourism and other sponsored routes:** Following Ministry of Tourism's intention to enhance point-to-point connectivity of tourism destinations across the country and requests received from State Governments / UTs, DoNER / NEC to provide air connectivity to State Governments / UTs and NER, the scheme further proved to be instrumental in incorporating such routes under the UDAN 3 Scheme.
- **Development of International Air Connectivity Scheme (IACS):** Following requests from various State Governments to assist them in creating a framework to facilitate / stimulate international connectivity from the international airports in their respective states to certain other airports, the Ministry of Civil Aviation (MoCA) envisioned the International Air Connectivity Scheme. An independent scheme, the IACS was designed based on the understanding of Indian aviation derived from the formulation stages and from the experiences of the implementation phase of the UDAN Scheme.

MoCA conducted an analysis of a number of innovative bidding models for IACS based on a variety of factors including fairness and extent of support to airlines, ease of implementation as well as the objectives of MoCA and State Governments.

The bidding models analyzed included a seat underwriting model, a model similar to RCS and a cost-minus-revenue model. The cost-minus-revenue was the model that was finalized because it most efficiently fulfilled the multiple objectives of limiting VGF outflow, risk mitigation for airlines as well as an incentive for airlines to market the routes and sell more seats.

- **Lifeline UDAN:** With the advent of COVID-19, Lifeline UDAN was conceptualized to aid India in its fight against the pandemic.

Various requirements such as dynamic scheduling of flight operations at short notices, and mobilization of crew in lockdown situation were identified, the Ministry of Civil Aviation launched 'Lifeline UDAN': an initiative to ensure a steady supply of essentials to the remotest parts of the country. Planning and operationalization of flights to attend to the country's immediate needs of transportation of testing agents, PPE Kits, medicines, and other essential cargo was done.

The Ministry established a coordinating mechanism to match the requirements / consignments of States / UTs / MoHFW (HLL & ICMR) / other Ministries with special flight plans. Furthermore, to facilitate the commencement and implementation of Lifeline UDAN, MoCA constituted a Committee to submit its recommendations to facilitate transportation of medical and other essential supplies. The Committee recommended the use of the services of Government owned airlines viz. Air India, Alliance Air and Pawan Hans Ltd. (PHL) on

nomination basis. The states / UTs / other Central Government entities could avail these air transport services, as per their requirements, on payment basis to these airlines as per rates approved by MoCA. Due to some ground level difficulties faced in supplying essential items / equipment etc. across the country by the nominated airlines due to distance, terrain, irregular / voluminous / bulky / oversized cargo, IAF aircrafts were also deployed to carry COVID essentials.

The success of Lifeline UDAN involved a number of special measures / initiatives put in place to facilitate seamless implementation and provide tailored solutions to a dynamically changing situation. These included:

- a. **Specialized core team / Designated response team:** A core team was assembled at MoCA for fast pace decision making and the implementation of Lifeline UDAN, which included officials from AAI, DGCA, BCAS as well as Government airlines along with various representatives from MoCA. This ensured participation of all the key stakeholders. The committee operated under a control room setup and met twice a day. The first meeting was held every morning to oversee the day's operations and address issues, if any. The second meeting was held in the afternoon to take stock of various requests received and to accordingly plan the operations of the next day.
- b. **Continuous engagement and coordination with external stakeholders:** Success of Lifeline UDAN involved continuous engagement with a variety of stakeholders including private airlines, IAF, AAI, State / UT Governments, ICMR and HLL etc. Coordination was required throughout the entire process right from receiving and assessing requirements, network planning, overseeing operations to overcoming any roadblocks / implementation issues till the consignments reached the final destinations.
- c. **Adoption and usage of technological solutions:** The National Informatics Centre and Ministry of Civil Aviation developed a website within a period of 3 days for Lifeline UDAN flights. This was called the Lifeline UDAN Portal. The newly launched website enabled State Governments as well as airlines to upload in advance the details of their consignment and flight operations. The Portal provided an easy interface for the consignors (States / UTs / ICMR / Ministries etc.) with the airlines. It made it efficient for the Core Team to keep a track of the requirements of the States / UTs etc. and helped ensure effective network planning. The control room of the Ministry assigned the cargo to different flights and until the consignment reached its destination, coordination was done with multiple stakeholders. No service fee was levied on the Lifeline UDAN Portal. The core team also used WhatsApp groups and video conferencing technology to effectively engage with all the stakeholders.

- d. **Hub and spoke model:** For facilitating movement of low density but high-volume cargo, a hub and spoke model was developed. Metro cities like Delhi, Mumbai, Kolkata and other cities like Bangalore and Hyderabad were treated as hubs. ICMR consignments were brought by road from Pune to Mumbai and then were distributed to these hubs for further transportation to State capitals in the Northern, Western and Eastern regions. Cargo meant for North East was carried to Guwahati and from Guwahati it was transported to Meghalaya, Nagaland, Arunachal Pradesh and Manipur by IAF / State helicopters.

Figure 15: Hub and spoke model followed during Lifeline UDAN



6. Scheme Outcomes

Over four rounds of bidding, limited-period exclusive operating rights for 948 valid routes have been awarded to the participating airline operators. As of 31st October 2021, flight operations have commenced on 389 RCS Routes. Over 7.8 million passengers have availed the benefits of the Scheme. Once the remaining 500+ routes commence operations, over ten million in annual ticketing could be generated, without accounting for the spillover traffic on commercial routes operating in the tier-1 and tier-2 cities.

RCS has also helped even out previously uneven distribution of operating airports in the country. While air connectivity in the southern and central parts of India improved from pre-RCS times, the northern and the eastern parts registered considerable gains. Moreover, since the implementation of the scheme, the number of operational airports increased across the entire country. RCS routes have been awarded for 154 unserved and underserved airports/heliports/water aerodromes and flight operations have already commenced at 62 of them. Once the facilities are ready at the remaining airports, the respective airlines will be able to commence flight operations.

The success of RCS is not only attributable to the larger scheduled carriers such as Indigo, SpiceJet and Alliance Air but also to the regional carriers like TruJet, Star Air FlyBig and Pawan Hans that have aggressively participated in the process. The scheme provided a much-needed platform to the regional carriers to scale up their operations.

6.1. General Outcomes

- Due to the aspect of airport development under UDAN, CCEA also approved revival of unserved and underserved airstrips/heliports/water aerodromes of State Governments, AAI, Civil Enclaves and CPSUs over 3 years at a total cost of Rs. 4500 crores with budgetary support from Government of India. Airstrips/airports for revival will be identified based on RCS bidding process.
- Another important outcome of UDAN is the increased focus of State/UT Governments on regional air connectivity. Recognizing the success of RCS-UDAN, several States including Uttar Pradesh, Karnataka and Madhya Pradesh have introduced their own Schemes, which are based on the framework of UDAN and are complementary to it. It is expected that such Schemes will help to further facilitate the spread of regional connectivity across the length and breadth of the country.

6.2. Lifeline UDAN Outcomes – Helping India in the fight against COVID-19

The genesis of Lifeline UDAN played a paramount role in augmenting the country's efforts to fight COVID-19 in a timely and efficient manner. The program's success is evident from the consequent results it produced.

- 588 flights were operated under Lifeline UDAN by Air India, Alliance Air, IAF and private carriers.
- Approximately 1000 tonnes of cargo were transported by the Lifeline UDAN flights and the aerial distance covered was 3,00,000 Kms. It is to be kept in mind that the cargo carried was voluminous and hence the tonnage is not a true reflection of the volume carried. The focus of the Lifeline UDAN was on North Eastern region, the Island and the hilly terrains.
- States / UTs / GoI health agencies like HLL, ICMR, etc. were facilitated through air transportation to move emergency cargo. Medicines, PPE kits, testing kits, ventilators, medical equipment with teams and experts were flown across the country quickly with the help of Lifeline UDAN, which helped the nation to fight the COVID-19 pandemic effectively.

7. UDAN's resilience in unforeseeable circumstances

During the COVID-19 pandemic, MoCA along with other stakeholders focused on policies and structured reforms to help move the sector forward. This included restarting RCS UDAN operations in a sustainable, safe and efficient manner in order to gradually rebuild confidence of passengers and other stakeholders.

In line with the staggered resumption of domestic flight operations, to further ensure that the benefit of air connectivity reaches small cities / towns, regional flight operations under RCS-UDAN were also allowed to resume in a similar manner.

However, suspension of scheduled commercial operations in view of COVID-19 in early 2020 posed several challenges. These included financial constraints being created on the Regional Connectivity Fund since the RCS levy could not be collected for over two months. Furthermore, financial health of the airlines was impacted given the collapse of revenue streams coupled with high fixed costs resulting in a liquidity crunch. Consequently, it became critical to aid airlines in order to sustain long-term operations on the regional routes under the scheme and to optimize the VGF outflow.

In this regard, certain policy reforms and relief packages were introduced for the sustainability of operations of RCS-UDAN post COVID 19. These operational and financial flexibilities / relaxations and economizing measures were deemed mutually beneficial for all stakeholders by maintaining the benefit of air connectivity to passengers, helping with the tight liquidity situation for airlines as well as rationalizing the VGF outflow.

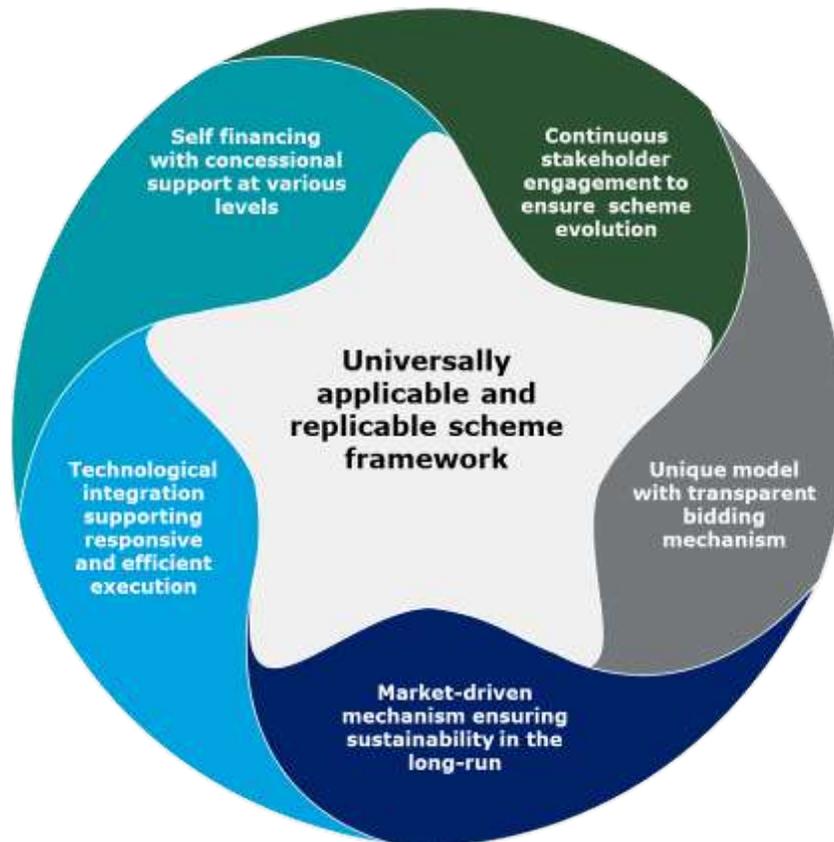
Figure 16: Framework for UDAN's Route to Recovery



8. Conclusion

The UDAN Scheme formulated by MoCA in a structured and methodical manner has proven to be a transformational policy based on a unique / innovative working model, which is self-sufficient and has not required any budgetary support from the Central Government for providing monetary & other benefits to airline operators for provision of air services to unserved and underserved regions.

Figure 17: Key aspects of the Scheme rendering it universally applicable and replicable



There are multiple aspects of the Scheme, which are replicable in nature and have been used in formulating scheme aspects like IACS, Lifeline UDAN. These include transparent two-stage bidding model, State Government buy-in and local (airport level) ownership, non-monetary concessions to reduce costs and mechanism to generation of funds from within the sector (RCS levy) among others that can be used as a framework for success for other schemes such as the Krishi UDAN scheme to promote cargo operations in the future.

The Scheme has immensely benefitted a diverse set of stakeholders - passengers have gotten the benefit of air connectivity, airlines have received concessions for operating regional routes, remote and regional areas have reaped the direct and

indirect benefits of air connectivity and the State and Central Governments have been able to fulfil their objectives through the model of UDAN.

Since inception till 31st October, almost 1.53 lakh flights have been operated under UDAN by multiple airlines, carrying more than 78 lakh passengers with ~58 of them at subsidized airfares. Further, a total of 62 RCS airports, heliports and water aerodromes have been operationalized providing additional air connectivity to 27 different states and 5 UTs.

The Scheme also managed to conceptualize and incorporate flights under Lifeline UDAN, which have been significant in the country's efforts during the COVID-19 pandemic.

Hence, the Scheme has proven itself to be a dynamic mechanism, which has continuously transformed itself to help fulfil the need of the hour whether it is spread of air connectivity to underserved and unserved regions, facilitating policy goals of the government or helping India in its fight against the pandemic.

Abbreviations

AAI.....	Airports Authority of India
AIMS.....	Airport Information Management System
AMIS.....	Interface of Airport Management Information System
AMSS.....	Aeronautical Mobile Satellite Service
APG.....	Additional Performance Guarantee
ASF.....	Aviation Security Fee
ATC.....	Air Traffic Control
ATF.....	Air Turbine Fuel
ATM.....	Aircraft Movement
BCAS.....	Bureau of Civil Aviation Security
BOQ.....	Bill of Quantity
CAG.....	Comptroller and Auditor General of India
CAR.....	Civil Aviation Regulations
CCEA.....	Cabinet Committee on Economic Affairs
CPI-IW.....	Consumer Price Index for Industrial Workers
CPP.....	Central Public Procurement
CPSU.....	Central Public Sector Undertaking
DF.....	Development Fee
DGCA.....	Directorate General of Civil Aviation
DoNER.....	Department of Development of North Eastern Region
ER.....	Eastern Region (FIR)
GST.....	Goods and Services Tax
IA.....	Implementing Agency
IACS.....	International Air Connectivity Scheme

IAF.....	Indian Air Force
ICAO.....	International Civil Aviation Organization
ICMR.....	Indian Council of Medical Research
IT.....	Information Technology
LOIA.....	Letter of Intent to Award
LOA.....	Letter of Award
MHA.....	Ministry of Home Affairs
MoCA.....	Ministry of Civil Aviation
MoHFW.....	Ministry of Health and Family Welfare
MoU.....	Memorandum of Understanding
NCAP.....	National Civil Aviation Policy
NEC.....	North Eastern Council
NER.....	North Eastern Region (FIR)
NR.....	Northern Region (FIR)
NSOP.....	Non-Scheduled Operator's Permit
PG.....	Performance Guarantee
PPE.....	Personal Protective Equipment
RCS.....	Regional Connectivity Scheme
RCF.....	Regional Connectivity Fund
RTM.....	Right To Match
SAO.....	Selected Airline Operator
SAOA.....	Selected Airline Operator Agreement
SCO.....	Scheduled Commuter Operator
SR.....	Southern Region (FIR)
TNCL.....	Terminal Navigation Landing Charges

UDAN.....Ude Desh ka Aam Naagrik
UDF.....User Development Fee
UT.....Union Territory
VGF.....Viability Gap Funding

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