Report from team AT3N

Location: Nelliyampathy, Kerala | Grid MK 80 IM | Altitude 1380 m

THE INITIATING CALL FROM JACOB VU2ADV

Every exhilarating activity undertaken by this energetic team of Radio Amateurs typically commences with a phone call from OM Jacob, VU2ADV. In 2023, the decision to participate in the ARSI contest was instigated by Jacob's call to OM Girish, VU2KGB.

Girish is renowned for his inability to decline such challenges, a fact well known to Jacob. The third individual always ready to heed the call is OM Peter, VU2PJP, who is backed by his two adept technical progenies, Rakesh VU3RGP and Ajith VU2EMX.

Peter's unwavering support comes from Rejeesh VU3FWR, as well as SWLs Mahilal, Akhil, and Pradeep, ensuring no room for failure. OM Manoj, VU2DTH, eagerly tackles any radio challenge, particularly those posed by rugged terrains.

Nevertheless, the team is acutely aware that for HF contests, our seasoned Leader must take charge. As witnessed in 2023, a mere call from Girish was sufficient to rouse OM Manoj, VU2CPL, who promptly responded with an enthusiastic YES!

DECISION ON THE CONTEST LOCATION

The team had a successful contest participation in Category C (HF/VHF/UHF) in February 2023 from Kulamavu in Idukki District, in which the same team was declared by ARSI as the winning team. The learnings from this event helped the team to plan in advance and start preparations for the 2024 event.

As usual, location was the first question. There was initially a plan to go to the same location in Idukki and accordingly, we had blocked rooms for the contest dates.

During the evening discussions in the WhatsApp group, the following points came up:

a) *The same location would never impart new challenges and it could be more or less become a repeat of the 2023 event.*
b) *The Kananam resort at Kulamavu, though comfortable, was expensive.*

Peter VU2PJP suggested the Nelliyampathy Minnampara Estate with the following advantages:

1) *Against the 800 m height of Kananam resort over the MSL, the suggested Minnampara Estate in Nelliyampathy would be 1380 m over the MSL. This could perhaps offer a better pattern of VHF/UHF openings.*

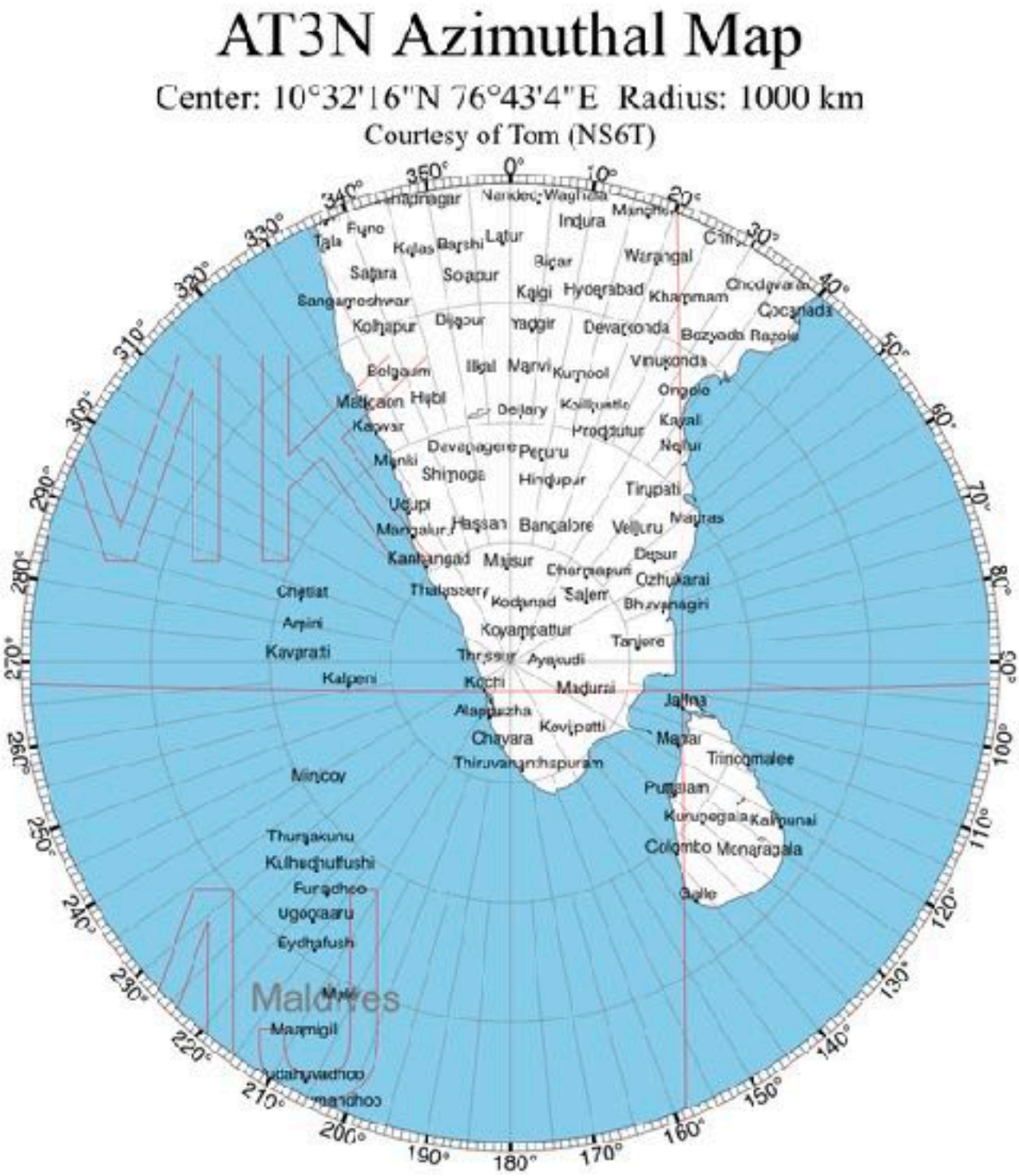
2) *Though there are challenges in the logistics, with some hard work these could be overcome. As a result, the overall expenditure could be brought down. This suggestion from Peter was acceptable to all.*

NELLIYAMPATHY, THE CONTEST LOCATION

A good location for VHF was required to explore the chances of a DX QSO with A4 or 4S. Jacob VU2ADV contacted Sangeeth VU2TT and requested to coordinate with A4 stations to explore the possibilities of a VHF DX QSO. Girish VU2KGB prepared a design for a 2 x 5 element broadside stacked array and passed it on to Peter on 24th November to get it fabricated at Coimbatore.

The team continued regular conference calls at 21:00 IST daily to deliberate. Having chosen Nelliyampathy as the location, Manoj VU2CPL completed the required paperwork for the special callsign AT3N. This request was submitted on December 1, 2023. The approval from WPC was received on 13th December 2023.OM Siddhu VU2YYF, Shaji VU2WJ, Adersh VU3WEW were invited to the team to fulfil the HF operator requirement.

The plan was to have three HF stations and two VHF and one UHF station. Sangeeth VU2TT also joined the team later. OM Abraham VU2OJ and Easwaran VU2ACT were unable to join the team due to exigencies.



BEAM HEADINGS FROM THE CONTEST LOCATION

TEAM's LOGISTICS

The old bungalow at the site had limited facilities and the team planned to get a Chef and food supplies during their drive up the hill.

SWL Mahilal (a retired Police Officer of the Telecommunication wing and a trekking hobbyist) took up the responsibility of all the logistic arrangements & permissions.

He also located the Chef Sujeesh who turned out to be a good find and served delicious dishes to the whole team during the span of 5 days.

Mahilal was also the expert who guided most of us through the wilderness to reach the location.

Most of the team members were planning to reach the site on 25th Jan'24 itself so that team could setup the antenna, stations and start operations without any hiccups.

Manoj VU2CPL started from Bangalore with the whole HF setup on 24th Jan and reached Palakkad. Siddhu had a last-minute emergency at his workplace and had to drop his plans.

On 25th Jan morning, Peter, Rakesh, Rajeesh, Mahilal and Akhil along with other SWLs started from Palakkad and the plan was to meet near Pothundi dam.

Adersh and Shaji started from Kozhikode. Team members met near Pulayanpara and regrouped to four 4WD vehicles. After a gruelling climb through a very tough road, this team reached the site by 2 pm.

WIRE ANTENNAE FOR HF

During the 2023 contest, we used 2 element multi band cubical quad for HF. Since we had a flat roof there, installation was possible. But for Minnampara estate building which has a sloping roof, we preferred the Hex Beam. Spider-beam and MFJ brand FRP poles were used for installation of a 40m vertical and a 15m vertical. Operations were started using own callsigns for the test of the setup.

We realised that 40m vertical can be used on 15m also and hence the 15m vertical was retuned for 10m so that we can run 2 stations on higher bands on HF during the day time.

160m, 80m and 6m operations were ruled out since the contest doesn't give additional points for any operation on these bands which are having rare openings and thus not very productive from a contest point of view.

The DX QSO with a nearby 4S versus the far away W lands as fetching the same point, needs a relook by the contest organisers, next time. 50 MHz, being a rare band, should also be given at least higher points like they consider the UHF band to promote any activity on the magic band.

THE HEX BEAM, VERTICALS AND THE DIPOLE

The Hex beam was a compact antenna to carry. It provided 6 bands without the need for a tuner. The Italian Expert amplifiers handled the Hex comfortably. Other vertical wire antennae were made over the fibreglass telescopic masts.

HF ANTENNA INSTALLATIONS

The team, after a light lunch which was packed from the dam site, got to work and started installing the antennae and stations.

By evening, the HF setup was completed. It was decided that the team would use only electronic logs for the contest. A mix of Windows and Mac computers made it a challenging task.

But Shaji and Adersh along with Manoj completed the multi-OS logging setup through a local network. The temporary microwave link setup my Rakesh helped to get a basic Internet facility at the site and this helped the team to be in touch with the outside world which would have been difficult since only BSNL and Jio ISPs were occasionally available.

Even though Peter was confident about the power quality and availability, we had carried a 5 kVA petrol generator for backup power.

Shaji with his expertise helped the stations with a power back up arrangement. A fresh ground rod was installed near the station and tested.

Peter had arranged a three section x 10 foot tower for the hex beam installation. VHF array was prepared and kept ready for Girish to arrive and install.

A Yaesu G450 rotator was used for HF station and a similar rotator for the VHF/ UHF antennae.

VERTICAL ANTENNAE

PLAN B FOR THE VHF ARRAY

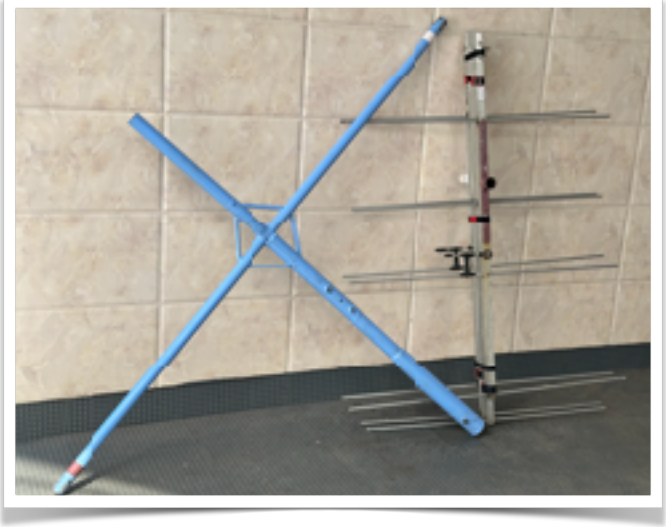
Peter engaged a few vendors to get the VHF array fabricated as per VU2KGB's design. The hardware was made and delivered to Peter. But there were drilling mistakes due to the wrong interpretation of the drawings.

So we quickly switched to Plan B.
An almost similar stacked array built by VU2KGB, 30 years ago was available on the roof top of VU2ADV. This was brought down on 18th January 2024 and refurbished.

The electrical contacts were tested and re-established, the booms were cut in the middle to be joined at the contest premise. VU2TAH gave his home-brew power divider. The array was tested to get an SWR of 1: 1.05 and the full set was packed and delivered to Peter on January 23, 2024.

This stacked array was installed at the venue on 26th Jan and connected using a 22m long 16 mm diameter Andrew Heliax cable. On the contest frequency, it showed an SWR of 1: 1.05.

For UHF, the 10 element Diamond Beam of VU2CPL which performed well last year was re-used this time also, along with the RG 213 cable.



THE UHF YAGI WE USED

VHF ARRAY TESTING

Girish had done some quick maintenance of his 30 year old 5 element x 2 VHF array, cut the booms and inserted suitable square sections inside and made the array easily transportable.

The array performed well as expected. Thanks to Tahir for his home-made power divider.

VHF / UHF YAGI INSTALLATION

Pradeep assisted by Krishnakumar erected the VHF & UHF antennae.

ROTATOR FAILURE

After dinner, when we tested, it was noticed that the Yaesu rotator fixed below the HF Hex beam had stopped working.

We witnessed the strength of our team work during the replacement of the rotator on 27th Jan morning. Manoj, VU2DTH and Mahilal braved the heavy winds and cold weather to climb the HF tower. Rotator was confirmed to be dead and was removed after the hex beam was brought down. While the stand-by rotator was put back, we could see the expert hands of Peter repairing the damaged Yaesu rotator so that we have a standby in case of any further failures.

The replacement work was finished just before the contest start time. Contest started at 0330 UTC on 27th Jan. Two HF stations and one V/ UHF stations started operations with one more VHF on standby.

THE EXPERT HANDS OF VU2PJP REPAIRING THE DAMAGED YAESU ROTATOR THEN AND THERE

While the damaged Yaesu rotor was quickly replaced by VU2DTH and Mahilal, Peter spared no time to fix the Yaesu rotor to make sure that we always had a standby. However, the Alliance Rotor stood strong & reliable throughout the contest.

VU2TT AND VU2TAH JOINED

After seeing the videos of our 4WD climb, Sangeeth who had cancelled his trip, decided to join the team for 1 day along with Tahir VU2TAH and another SWL Girish. They reached the location on 27th Jan afternoon and stayed for a day. Sangeeth operated on 15m CW during the afternoon, but QSO rates were disappointing despite reasonable band conditions.

QSOs kept pouring in and by the first night itself we were sure we will easily cross our target of 3000 QSOs.

We had kept a slot for 20m SSB for 27th Jan evening, but seeing the QSO rates on 15m and 10m, we decided not to upset the rhythm and skip the SSB operation for the time being. We operated on 40m sub from 0730 IST to 0830 IST and logged 62 stations during this time. Shaji and Adersh had observed high noise levels on 40m vertical and went about installing an Inverted V for 40m and this proved to be helpful for local SSB QSOs.

WE CROSSED OUR TARGET

By the afternoon of 28th Jan we crossed the target of 3000 QSOs and the goal was revised to achieving 100 DXCCs during the midst of the contest.

By the evening of 28th Jan, 1800 IST, team finished with the following score.

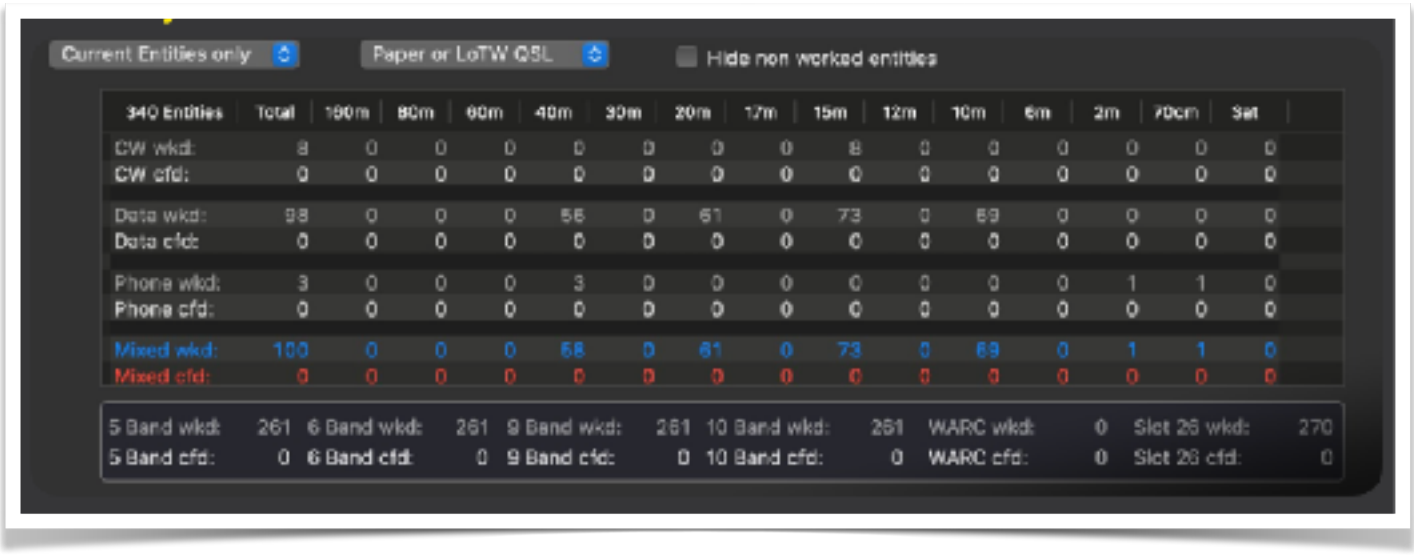
and	CW	Data	Phone	Total	%
160m:	0	0	0	0	0.0%
80m:	0	0	0	0	0.0%
40m:	0	578	62	640	14.5%
30m:	0	0	0	0	0.0%
20m:	0	593	0	593	13.4%
17m:	0	0	0	0	0.0%
15m:	12	1,453	0	1,465	33.2%
12m:	0	0	0	0	0.0%
10m:	0	1,568	0	1,568	35.5%
6m:	0	0	0	0	0.0%
2m:	0	0	125	125	2.8%
70cm:	0	0	26	26	0.6%
Total:	12	4,192	213	4,417	
	0.3%	94.9%	4.8%		100%

All antennae were dismantled in the evening itself after a short photo session while the light was fading. All equipment were packed and loaded into the cars by 8 pm and team had a review meeting at 9 pm after a quick shower.

Manoj VU2CPL consolidated the contacts on HF, VHF and UHF and announced the revised total QSO numbers.

The team got together around the dining table and had a very useful review session. The learnings from the event were listed which shall be summarised towards the end of this report.

Rakesh and Akhil had set up a central console for managing the Internet and maintenance. Akhil also helped the VHF/ UHF operation at times. This team also supported in correcting the locations in the computer log.



A QUICK LINE UP BEFORE THE SUN SETS

Soon after the contest, we made a quick line-up for a group photo. While we were happy about achieving the targets and more, we were not too happy to leave the beautiful location.

Even with limitations at the place of stay, all of us enjoyed the whole event, because of the excellent logistic arrangements made by Peter, Mahilal and Rejeesh.

After Rahul clicking the group photo, we hurried back to the stations to pack-up and to get ready for the review meeting.

WHAT WORKED, WHAT DID N'T

The following observations were made during the re cap:

1. *Compared to the previous year, the team showed better cohesion during this event. All the team members were fully aligned towards achieving the goal.*

2. *It was a decision taken last year that in future, all the operators will adopt computerised logging. We achieved this goal and went one step further. All the laptops were networked together and the logs were captured on-line and consolidated.*

3. *There was no idle time for the HF stations. We could utilise the full contest period. Since we had sufficient number of skilled operators, proper scheduling was possible.*

4. *It was strongly felt that our preparations for the UHF set up was not enough. We could have used better antennae, better transmission line to avoid losses and the need for an amplifier was also felt.*

5. *The VHF array performed pretty well. But if a coax switch was placed in the shack, it would have been easy to shift to Omni directional F22 antenna, occasionally. This is surely a take away to improve, next time.*

6. *During the planning stage, we talked about spreading the news in a big way about the AT3N participation. This action was not very effective and needs improvement in future.*

7. *When the microwave link bringing the Internet to the premise failed, the FT8 operations got affected because of the lack of time synchronisation. VU2CPL immediately deployed a home-brew GPS module and the problem was solved.*

8. *Though we made concentrated efforts to establish VHF contacts with Oman and Sri Lanka, these did not yield any results. Contact with A4 was felt possible, but needed better coordination and infrastructure at both the ends.*

THE REAL PERFORMERS OF THE AT3N CONTEST

Adersh (VU3WEW) and Shaji (VU2WJ) truly shone this time around. Their unwavering dedication and expertise were indispensable in reaching the DXCC level within a remarkable 33 hours. Under the guidance of Manoj (VU2CPL), these exceptional operators performed admirably, surpassing our previous contest scores. The inclusion of Shaji and Adersh in our team proved instrumental in achieving these scores.

IMPROVEMENTS SUGGESTED FOR FUTURE EVENTS

1. A NEW LOCATION WITH NEW CHALLENGES
2. CUBICAL QUAD VHF ARRAY FOR BETTER RECEPTION
3. A STACKED ARRAY FOR UHF WITH LOWER LOSS CABLE
4. MORE VHF/VHF CONTACTS THROUGH CONTEST CAMPAIGN
5. MORE HF STATIONS WITH ONE TO FOCUS ON SSB AND CW
6. BUILD MORE SINGLE BAND FILTERS FOR THE CONTEST
7. USE OF THE LOCATION DATABASE FOR VHF/ UHF STATIONS
8. MORE IMPRESSIVE ARRANGEMENT OF RADIO SHACKS
9. MORE RELIABLE SYSTEM FOR POWER CHANGEOVER

THE TEAM MEMBERS WHO MADE IT POSSIBLE

VU2CPL

VU3WEW

VU2WJ

VU2TAH

VU2PJP

VU2KKG

VU3WTD

VU2DTH

VU3RGP

MAHILAL

PRADEEP

VU2TT

AKHIL

VU2KGB

VU3FWR

VU2ADV

Please see the contest video on:
https://youtu.be/Gl1s1tanaWM?si=UTkP1CyV51OFTG7l

REPORT COMPILED BY VU2CPL, VU2KGB, VU2KKG