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CRYPTO ECOSYSTEM AND POTENTIAL REGULATORY APPROACHES AHEAD FOR INDIA

• Introduction

Crypto ecosystem and crypto-currencies are today new buzz of today's times. Everybody seems to be fascinated by the growing crypto-currencies and Blockchain ecosystem across the world. Crypto-currencies and crypto-assets appears to have completely triggered off the imagination of lay digital users.

This has brought forward not just massive recurring interest on crypto-currencies but also is triggering off the increasing growth of crypto-currencies ecosystem. This becomes even more clear when one looks at the existing facts and figures.

• Facts & Figures

As per one estimate, Around 5,000 different cryptocurrencies exist. Not all are valuable. Examples are Coinye (named after Kanye West), PizzaCoin, and Cabbage.¹ China is the biggest cryptocurrency miner.²

Further, it has been estimated that Bitcoin had a market capitalization of \$1072.21 billion as of February 21st, 2021³. The global blockchain market will go up to \$23.3 billion by 2023.⁴ Between 2012 and 2020, Bitcoin has gained 193,639.36%⁵. The market size for cryptocurrency will get to \$1087.7 million by 2026.⁶

The facts and figures have further pointed out to the increasing use and confidence of crypto-currencies. The user index for 2021 shows a 97% confidence in cryptocurrencies.⁷ Turkey is the country with the highest rate of cryptocurrency adoption (20%).⁸

No wonder there is massive increase in interest on crypto-currencies. A recent cryptocurrency stat revealed that there are 28,866 social media posts on Bitcoin posted online daily. If we do the math, then about 1,203 posts are made every hour. That is about 20 posts per minute!⁹

The tremendous fluctuation in pricing of crypto-currencies is also one of the key factor in attracting peoples' attention. Bitcoin's price has grown by 66% in February 2021.¹⁰ Tether was the biggest cryptocurrency as of February 22nd, with a \$109 billion 24-hour volume.¹¹

¹ The NYU Dispatch. (2021). *6 Must-Know Facts About Cryptocurrency*. [online] Available at: <https://wp.nyu.edu/dispatch/6-must-know-facts-about-cryptocurrency/>. [Accessed 15 Dec. 2021].

² *Ibid*

³ TechJury. (2020). *41 Cryptocurrency Statistics [All You Need To Know In 2020]*. [online] Available at: <https://techjury.net/blog/cryptocurrency-statistics/#gref>. [Accessed 15 Dec. 2021].

⁴ *Ibid*

⁵ *Ibid*

⁶ *Ibid*

⁷ *Ibid*

⁸ *Ibid*

⁹ Barton, C. (2019). *A summary of the most important stats involving cryptocurrencies*. [online] Finder UK. Available at: <https://www.finder.com/uk/cryptocurrency-statistics>. [Accessed 15 Dec. 2021].

¹⁰ TechCrunch. (n.d.). *Bitcoin briefly breaks the \$50,000 barrier as Coinbase's direct listing looms*. [online] Available at:

It has been estimated that the first ten cryptocurrencies with the highest market cap make up about 88% of the total cryptocurrency market value.¹² There are about 900 new coins in the market every day as of 2021.¹³ There are almost 100,000 Bitcoin millionaires¹⁴

The aforesaid facts and figures clearly tell us one success story that crypto-currencies and crypto-assets are here to stay and that the crypto ecosystem will continue to keep on growing with each passing day, month and year.

- **Crypto-currency is Grey Zone**

Crypto-currencies today represent, as far as I shall say, a grey zone, as far as countries are concerned. It's like countries are like blind men who are trying to go ahead and describe an elephant. No wonder, no country really knows which is the magical golden way going forward, but each one of them is going as per their own respected manners.

So clearly, countries are concerned that the coming of blockchain and the coming of cryptos could potentially have an impact upon their cyber-sovereignty, their cybersecurity as also the sovereignty, security and integrity of the concerned countries. India is also one of those nations who has flagged these kinds of concerns, but that is primarily happening because the holistic understanding of the new technology has not been completely analysed in complete depth.

- **India's New Crypto-currency Bill**

Everybody's waiting for the new Crypto Currency Bill or the Crypto Assets Bill and the kind of voices that we are hearing are effectively like the string of the pendulum-from one end to the other. So, from the time there was talk of banning to the present, where a more prudent approach of switching on and just looking at low hanging fruits has been adopted. It's a mixed bag. So we will have to wait and watch for the final verdict, in the form of the actual language used in the Bill, to come out in the public sphere.

- **Crypto Ecosystem Related Legal Challenges**

Clearly, crypto brings forward various challenges. Governments of many countries are wary of crypto, primarily because they believe that with the coming of crypto, there could potentially be an invasion onto some of their sovereign space and also that crypto can be potentially used for not just breaching cyber security, but also for resisting cybersecurity protection. So it is a double edged sword that people and governments are slightly concerned with. On top of it, we are now beginning to find that crypto forensics is now beginning to emerge and the big discussion today is whether crypto forensics needs to be the answer for fighting crypto crimes

<https://techcrunch.com/2021/02/16/bitcoin-briefly-breaks-the-50000-barrier-as-coinbases-direct-listing-looms/?guccounter=1> [Accessed 15 Dec. 2021].

¹¹ Statista. (n.d.). *Most traded cryptocurrency worldwide 2021*. [online] Available at: <https://www.statista.com/statistics/655511/leading-virtual-currencies-globally-by-purchase-volume/>. [Accessed 15 Dec. 2021].

¹² BlockSocial. (2020). *Crypto in Numbers: 50+ Cryptocurrency Statistics and Facts*. [online] Available at: <https://www.blocksocial.com/50-cryptocurrency-statistics-and-facts/> [Accessed 15 Dec. 2021].

¹³ Buybitcoinworldwide.com. (2019). *How Many Bitcoins Are There? How Many Left to Mine? (2019)*. [online] Available at: <https://www.buybitcoinworldwide.com/how-many-bitcoins-are-there/>. [Accessed 15 Dec. 2021].

¹⁴ The Motley Fool. (2021). *7 Facts About Bitcoin That Will Surprise You*. [online] Available at: <https://www.fool.com/the-ascent/cryptocurrency/articles/7-facts-about-bitcoin-that-will-surprise-you/>. [Accessed 15 Dec. 2021].

and other cyber crimes. Obviously, this could be an interesting proposition for everyone to follow, but we have to realize also keep in mind that in India, if you are talking about crypto forensics, then ultimately the law would still consider crypto forensics as nothing but digital forensics. That being so, it'll still ultimately come out to be nothing but a computer output, so clearly the law on electronic evidence, which has now been set up by the Supreme Court will have to be complied with by all crypto forensic service providers who are providing any kind of crypto forensic analysis and reports.

- **Law Of Electronic Evidence In India**

The law has also seen a massive up-and-down approach because right from the Parliament House attack case, when it was submitted that section 65B of the Evidence Act was not necessary and that even without certification under the evidence act, the electronic evidence could still be made admissible because of the National trust involved. The subsequent cases ultimately converged in [Anvar P.V vs P.K.Basheer](#)¹⁵. This case was decided in 2014, where the Supreme Court ruled that by and large, section 65B of the evidence act is a distinctive code in itself. For those who do not have a holistic viewpoint, s. 65B was added in the Evidence Act by virtue of the Information Technology Act, which talks about admissibility of electronic records. After this ruling, various permutations and combinations were seen and different interpretations were upheld held by different benches before the Supreme Court decided to end the confusion by sending the matter to the Constitution bench. In July 2020, the Constitution bench of the Supreme Court in the landmark case of [Arjun Panditrao Khotkar vs. Kailash Kushanrao Gorantyal](#)¹⁶ held that Section 65B of the evidence act, which is mandatory has to be followed as the basic law of the land. Without a certificate certifying the authenticity or veracity of electronic evidence, the electronic evidence submitted is akin to waste paper basket material. The Courts would not assume any kind of cognizance of the same.

- **Crypto Forensics and Related Issues**

From this perspective, the legal and policy issues regarding computer forensics generally and crypto forensics in particular are very clear. The crypto forensic service providers or the experts, as and when they come up with their reports or any kind of extract as a result of the computer forensics or crypto forensics, will have to comply with the mandatory provisions of section 65B of the evidence act. However, that has not really stopped people from going ahead and trying to, experiment with the misuse of block chain. It is no wonder that the massive increase in crypto crimes that we have begun to start seeing is also a culmination of this new trend. In the Indian context, it is my submission that people love to subscribe to the Indian Jugar School of Management. In India, people try to do '*jugar*' and everybody's now trying to do some '*jugar*' or another, as far as the crypto ecosystem is concerned. So there are a lot of legal policy and regulatory issues at present that the government will have to deal with, but it is the author's submission that we must take it each step as it comes. Right now, the only focus should be the proposed crypto currency bill. There is no public knowledge as to when it will come. There is no public knowledge as to how the Government would make a distinction between public blockchains versus private blockchains. Again, the more low hanging fruit would be trying to come up with an enabling legal framework for the Indian digital Rupee as a

¹⁵ Anvar P.V vs P.K.Basheer [online] Available at: <https://indiankanoon.org/doc/187283766/> [Accessed 15 Dec. 2021].

¹⁶ Arjun Panditrao Khotkar vs. Kailash Kushanrao Gorantyal [online] Available at: <https://indiankanoon.org/doc/172105947/> [Accessed 15 Dec. 2021].

starting point and then subsequently going and seeing how can the Government go ahead and tame the animal.

I submit that India, must now as a nation, try to go ahead and reinvent the wheel. The Time has Come that India must learn from the experiences of other countries. Looking at Malta and its three distinctive national laws on block chain, there's a lot to learn from that particular island country. No wonder 'Block Chain Island' is what modern Malta is otherwise known as. We can also learn from the Belarus experiment and their Cryptocurrencies And Cryptoassets Bill where they have primarily considered these crypto assets as legal crypto assets, also granting them the manifestation of a legal tender under certain specified circumstances. So rather than just starting out on its own, India must learn from other countries. But yes, it's a constantly newly evolving paradigm and a lot of new law and policy issues will continue to keep on arising as India goes forward.

India is at a cusp of waking up from its deep slumber, so it's definitely not prepared for the crypto ecosystem as a country. The government requires massive capacity building. Right now, the good thing is that they are listening and everybody now wants to come up with more informed decisions. However, looking at current levels of capacities, we need to do quite a lot.

In terms of regulatory approaches, India is not even yet made up its mind of how it wants to go ahead and deal with crypto as an animal. This is required because crypto is a unique animal which has not been dealt with earlier. Coupled with the massive and the stubborn insistence of the RBI that the coming of cryptos could effectively have an impact upon fiat currencies, there has not been a clear legal approach that has evolved.

Now when one looks at the Supreme Court judgement in the Internet And Mobile Association case, it becomes very clear that although the RBI may have lost a battle but it actually ended up winning the war because at the end of the day, though the said notification of the RBI which had banned the usage or the providing of banking services to those entities dealing in cryptocurrencies was set aside, the Supreme Court put its stamp of approval and said that the Reserve Bank of India shall be the nodal agency that will deal with all aspects pertaining to crypto assets and cryptocurrencies. Now since that particular judgement, we haven't seen much action nor much clarity appearing on the issue. The RBI appears to be focusing more on the framework for the Indian digital currency, but this needs to be looked at this holistically. India as a nation cannot have an ostrich approach. The citizens of India cannot close their eyes when it's mid noon, when the sun is right on their head and then presume that it's midnight.

- **Need for Indian Approach**

Somewhere down the line, the Indian nation has to wake up to the existing ground realities of the crypto ecosystem. The government has to be alive to the fact that thousands, or even lakhs, of Indian investors have invested thousands of crores of rupees into the crypto ecosystem. Everyone who is in this is there because everybody wants to make a quick buck. Lot of people will make a lot of money, but a lot of Indians who are gullible investors are likely to end up losing a lot of money. And therefore a big question that is now beginning to rise is, what is the government doing while this plethora of advertisements pertaining to crypto assets and cryptocurrencies is currently appearing on different television channels and prominent actors are imploring the lay Indian users to go ahead and invest in crypto currencies. That's where the government has started waking up. The Central Government has still not applied its mind completely because according to the law makers of India, "Look, we are still seeing as to how

advertising laws will apply”. But having said that, there is a huge bucket and it is a constantly growing bucket of Indians, who every single day are coming onto the crypto ecosystem, who are investing without understanding that these crypto currencies are not real world Fiat currencies, but at best are only crypto assets.

Looking at things from another perspective, if the government really wants to, it can take the advantage of the Indian cyber law, which is The Information Technology Act, 2000 and ultimately try to regulate some aspects of this crypto ecosystem because these crypto records, crypto assets, crypto currencies are nothing but electronic records. This is my submission. Since these crypto assets, crypto currencies are electronic records, they can be brought within the ambit of legality under section 4 of the Indian Information Technology Act, 2000. Further, it is submitted that the government has the power under section 87 of the Information Technology Act, 2000 to come up with specific parameters of due diligence for block chain service providers or the crypto service providers because ultimately, all these service providers continue to be intermediaries under section 21W of the Indian Information Technology Act, 2000. The government is yet to wake up in that particular direction, but that's something that's open to the government to consider. The government can come up with these kinds of enabling norms without going to Parliament. But if the government is looking at coming up with a new legislation on a whole, without having done adequate public consultation and without even consulting the relevant stakeholders, then as a nation, we may be walking in a direction where there are far more perils and potholes waiting for us. It is better not to experiment and ultimately, treat the Indian crypto users as guinea pigs. We must go ahead as a country to protect their interests, while also protecting the interests of the relevant stakeholders, but also, minimal enabling regulation should be brought up. Any overkill is going to ultimately kill the ecosystem and may be counter-productive from the word go.

Well India has never given the kind of priority or importance to cybersecurity that it actually deserves and so looking at the legal frameworks, it is clear that as of now, India does not have any dedicated national law on cybersecurity, this at a time when a lot of other countries have started coming up with distinctive laws. China has got three distinctive national legislations on cybersecurity. Even smaller countries like Vietnam and Singapore have come up with dedicated laws on national cybersecurity. Australia has come up with its anti-encryption law. So, now there is this constantly growing big tribe of big boys who are coming up with national laws on cybersecurity because they have realised that internationally, there is a big policy vacuum.

- **International Approaches and Lessons for India**

Internationally, we don't have a cyber law in place, we don't have an international cybersecurity law in place. The only thing that we have internationally is the Budapest Convention or the Convention on cybercrime of Council of Europe, but that hardly deals with cybersecurity. Way back in 2015, at the business forum in Geneva, I'd mooted the idea that the world now requires an international convention on cyber law and cybersecurity and while the idea was called nice, I found there was a distinct hesitancy on the part of nation states to bite such a bullet. The reason for this hesitancy is because today, Nation states are doing both covert and remote activities and they don't want to have any kind of a naming or shaming process, by means of which they could potentially be named or shamed. But having said that, the national approach towards enacting national laws on cybersecurity has now become the de facto preferred approach. Yet, India has to fall in line with that.

- **Legal Vacuum Exist In India**

India has not yet come up with a dedicated law on cybersecurity. The only mother legislation that we have in electronic format being the Indian cyber law, the Information Technology Act, 2000 is only an enabling the legal framework for the electronic format, but does not effectively deal with cybersecurity. It's correct that after the Mumbai attacks, the IT act was amended to not only come up with a very exhaustive legal definition of the term cybersecurity, but also coming up with some cosmetic provisions pertaining to cybersecurity. However, these were clearly not enough. In 2013, we saw India coming up with a national cybersecurity policy and that was a good policy document, which encapsulated the vision of the nation as to what it wants to achieve in the context of protection and preservation of cybersecurity, but unfortunately as time passed by, it became very apparent that India merely treated the national cybersecurity policy as a paper tiger as the policy was never implemented. As of date, we have already been hearing that the government is wanting to come up, and should be coming up in the next year, with the national cybersecurity strategy, but my personal belief is that the time for strategies is now long gone. It's now a scenario that indian networks are being continuously attacked and targeted by state and non-state actors. It's not just the Mumbai grids that get attacked. It's not just organisations that get attacked as a result of ransomware attacks. It's individuals. It's critical information infrastructure and it's governmental networks at large, which is under attack. We have to quickly realize that in India, we have a unique kind of a policy vacuum. We don't have a dedicated law on cybersecurity. We also don't have a dedicated law on data protection. We also don't have a dedicated law on privacy and on top of it we don't have a dedicated law on cybercrime, now when this unique policy vacuum is existing in India and then comes Covid-19. We suddenly find the ground realities changing completely. We find that with the coming of covid-19, the golden age of cybercrime has begun and India is thoroughly unprepared on how to deal with it. So right now, we are just in a knee-jerk reaction mode. Something happens, our Prime Minister's Twitter account gets hacked, even for a short time but mind you, that hack is very significant. Because that hacker seeks to then, after hacking that account, comes across with a statement on crypto policies. Now the hackers clearly have understood the style of the Prime Minister of making these dramatic announcements on social media, and that being so, they have actually went ahead and coming up with these tweets which said that bitcoin should be legal in the country and are legal tender. Clearly, the security was quickly addressed and the account was taken back and then they've said that whatever tweets that came across are not to be relied upon.

- **Conclusion**

But please understand here is now the catch. If the topmost man in the country, the Prime Minister and his Twitter account, official account, gets hacked, then one thing is clear, nobody is secure. In fact, cybersecurity is a constantly changing and moving target. What was cybersecure yesterday is not cybersecure today and what is cybersecure today will definitely not be cybersecure tomorrow and when we talk of cybersecurity in the crypto ecosystem, people still tend to believe the block chain technology to be the gold standard and itself to be the answer for our cybersecurity, but I think there are instances happening where cybercrime is happening on block chain and the crypto ecosystem, where cybersecurity breaches are beginning to happen. So now it's going to be a lot of action. The government of India needs to apply its mind and make up its mind as to what it wants to do vis a vis the crypto ecosystem, vis a vis cybersecurity and ultimately vis a vis protecting not just the interests of the netizen users and Indian citizens at large, but also ensuring that the sovereign interests of the government of India are not potentially prejudicially impacted in any manner whatsoever. So I think it's a very

complicated mesh of the situation that we currently are in and each one to its own facts, try as far as possible to protect your own data privacy, your own cybersecurity because in the absence of these laws, it's very unlikely that you're likely to get any kind of effective remedies of redress. So it's a vacuum and I hope, quickly the government comes up and moves quickly and comes up with very strong cogent provisions to protect cybersecurity and also to address the concerns pertaining to the block chain ecosystem.

The author Dr. Pavan Duggal, Advocate, Supreme Court of India, is an internationally renowned expert authority on Cyberlaw and Cybersecurity law. He has been acknowledged as one of the top four Cyber lawyers in the world. He is also the Chairman of International Commission on Cybersecurity Law. You can reach him at pavan@pavanduggal.com. More about Dr. Pavan Duggal is available at www.pavanduggal.com.

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