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IDSa – JANUARY 2018

1. POST DOKLAM SCENARIO AND CHINA'S PLANS

What is the issue?

- A multilateral air exercise 'Blue Flag 2017' was conducted at the Uvda Air Base in southern Israel.
- China's strategies over South East Asia is concerning India after the Doklam standoff.
- What strategies China takes to get hold over South Asia?
- **Economically** - In this region china chooses and funds only projects with long-term strategic value that whose yield in short term is low and insufficient to be repay the debt.
- China uses this as a leverage to swap the debt for equity and expand its footprint by trapping the countries in debt servitude.
- Thus, States caught in debt bondage to China risk losing both their most valuable natural assets and even their sovereignty.
- **Culturally** - China is developing a Buddhist globalisation, which pushes its economic projects through religious diplomacy to win strategically important projects in South Asian Countries.
- It is actively helping in reconstruction and resurrection of Buddhist institutions in Myanmar, Sri Lanka, Nepal, etc.
- China controls the World Buddhist Sangha Council founded in Sri Lanka and describes BRI as the project to connect Buddhist sites.

- This is reinforced by China's investment in Nepal which aims at linking OBOR with Buddha's birthplace in Lumbini and Revival of Buddhist pilgrimage routes - Gandhara trail connecting Lahore, Taxila and Peshawar in Pakistan

What are the post Doklam concerns of India?

- Doklam stand-off brought into perspective the fractured relationship between the two Asian giants on the global stage.
- Both India and china agreed to have a mutual trust and strategic communication to resolve the existing and future issues.
- At present China's growing unilateralism, broadening interests and sphere of influence in South Asia has brought anxieties to India.
- This is particularly due the impact of China's regional investments such as OBOR, CPEC are changing the geopolitics of the region, which is traditionally India's sphere of influence.

2. CHALLENGES IN BIO-ENERGY GENERATION

What is the issue?

- By 2050 there is a projected future demand for food due to increasing population.
- In this scenario biofuel production is likely to compete with food production, over land, water and increased food prices.

What is Bio-Energy?

- Bioenergy is energy derived from biofuels, Biofuels are fuels produced directly or indirectly from organic material "biomass" including plant materials and animal waste.



- Traditional unprocessed biomass such as fuel wood, charcoal and animal dung accounts for 90% of the bio-energy.
- Modern bio-energy is may be derived from fuels generated from agricultural crops, including conventional food plants or from special energy crops.

What are the different generations in bio-fuels?

- **Primary biofuels** - It includes fuel wood, wood chips and pellets, organic materials are used in an unprocessed form, primarily for heating, cooking or electricity production.
- **Secondary generation** - It result from processing of biomass which includes a wide range of oils, including Maize, rapeseed, soybean, palm, coconut or Jatropha oils.
- Most commonly example of 2nd gen bio fuels are ethanol and biodiesel which are used in vehicles and industrial processes.
- **Third generation** – It is based on improvements in the production of biomass by taking advantage of specially engineered energy crops such as algae.
- **Fourth generation** – It includes biofuels based on more advanced technology which aims to capture and store carbon dioxide (CO₂) at every production stage.

What are the concerns involved in growth of Bio fuels?

- Biofuel related policies such as subsidies, import tariffs has led to increased biofuel production and thereby increased the food price rise up to 75%.
- Biofuels can impact land use through direct land use change by clearing of forests and

cultivable land for cultivating plants for generating biofuels.

- The production of second generation biofuels in large scale will take five to ten years and requires R&D investments.
- Available scientific evidence indicates that biofuel systems made from corn grain, tend to emit more GHGs than cellulosic ethanol systems, particularly CO₂.
- Goods and Services Tax (GST) levied on biodiesel and ethanol is at 18%, which makes biodiesel expensive than diesel.

3. INDIA AND ACT EAST POLICY

Why in news?

- India is about to host an event to commemorate 25th anniversary of India-ASEAN ties, emphasising Act east policy.

What is Act East Policy?

- Act East Policy (AEP) was launched by the Indian Prime Minister at the first East Asia Summit'14, which aims to handle different geo-political and economic circumstances.
- AEP focusses on the Asia-Pacific region with objective of promoting economic cooperation, cultural ties and develop strategic relations and engage diplomatically with ASEAN.
- Development of North-East India is a priority under AEP, for which projects like Kaladan multi-modal Transport project, India-Myanmar-Thailand Trilateral Transport project has been mooted.

What are the significance of Act east policy?



- India and ASEAN account for about 30 per cent of the global population and a combined GDP of approximately USD 5.1 trillion.
- AEP helped to develop a clearer politico-security, economic and socio-cultural cooperation among the participating nations.
- It also paved a way for India-ASEAN Free Trade pact in services and investments, which would reduce India's trade deficit and impart a strong impulse to bilateral exchanges.
- India's partnership in ASEAN-led Regional Comprehensive Economic Partnership (RCEP) also strengthens the regional trade environment.
- The AEP has imparted greater dynamism to India's ties with ASEAN and plays a major role in addressing China's assertive military, political and economic rise.

4. NATIONAL REGISTER OF CITIZENS

Why in news?

- Assam has published first draft of the updated National Register of Citizens (NRC).

What is NRC?

- NRC is the list of the names of genuine Indian citizens residing in Assam, the first list was published in 1951,
- The objective behind updating NRC is to detect illegal migrants from Bangladesh, whom have migrated after March 24, 1971.
- Recently an initial list containing 1.9 crore people out of 3.29 crore residents of Assam has been released.
- The final list containing the names of all Indian citizens in Assam is expected to be published by December 2018 after the

disposal of all claims and objections in final registers at various levels.

- The process is carried out by Ministry of Home Affairs, in consultation with the Ministry of Law and Justice.

What is the need for NRC?

- The publication of the initial NRC list is the outcome of a long standing demand of the Assamese people to detect and deport illegal Bangladeshi migrants from their state.
- In 1980s demands have been made by people of Assam to detect foreigners based on the NRC of 1951.
- For this purpose Assam Accord of 1985 was introduced by the state government.
- It demanded to detect, delete and expel foreigners who came to Assam on or after March 25, 1971 in accordance with law.
- Later union government has also constituted a number of Tribunals and Appellate Courts under both the Illegal Migrants Act of 1983 and the Foreigners Tribunal Act of 1964 to detect illegal Bangladeshis.
- However successive governments have been extremely reluctant to update the NRC of 1951 due to various political considerations and vested interests.
- The process have only started in 2016, only after the intervention of the Supreme court, it guided for the deletion of illegal voters from the voters' list of Assam and sought NRC updating.

What are the concerns with the list?

- The NRC has raised serious apprehensions in the minds of those whose names do not



figure in the list, it also raised doubts about the rigour of the verification process.

- Many settlers of Assam are from other parts of the country, which makes the verification process of the certificates and other documents a lengthier one due to the involvement of concerned state governments.
- Once the final list has been released, there are complexities in deporting the persons who are declared illegal entrants.
- There are no proper agreements between India and Bangladesh on this regard and Bangladesh has consistently denied that its citizens have illegally immigrated to India.
- Since the deportation of illegal migrants is not feasible, the only option before the government is to let them reside in the country on humanitarian grounds but after stripping them of all citizenship rights.

5. PROSPECTS OF COMPACT FUSION REACTOR

What is the issue?

- Nations around the globe are investing on the compact fusion research under ITER.
- India in this regard as a partner in ITER has taken a wait and watch stand.

What is ITER?

- International Thermonuclear Experimental Reactor (ITER) project is located in southern France.
- Under this project 35 nations are collaborating to build the world's largest tokamak (toroidal plasma chambers).
- It is a magnetic fusion device that has been designed to prove the feasibility of fusion as a large-scale and carbon-free source of energy.

- ITER will be the first fusion device to test the integrated technologies, materials, and physics regimes necessary for the commercial production of fusion-based electricity.
- The ITER Members are China, the European Union, India, Japan, Korea, Russia and the United States.

What is a compact fusion reactor?

- These are based on nuclear fusion reaction that powers the Sun and the stars.
- Compact fusion reactors will use deuterium and tritium isotopes of hydrogen as fuel and a neutron source for the reaction.
- The temperature required for nuclear fusion to occur is in the range of 13 million degrees centigrade.
- Since no material can withstand such high temperatures, Hydrogen fusion experiments presently carried out in apparatuses 'Tokamaks'.
- The energy produced in the reactor would be in the form of heat which would be harnessed through a turbine as in a fission reactor.

What are the advantages of nuclear fusion reactors?

- Once successful it would lead to possibilities of unlimited clean energy, and will avert the major environmental impacts of global warming.
- Military applications of fusion reactors would probably be limited to powering the energy needs of ships, aircraft and spacecraft only.
- There would be no danger of accidents and any malfunction would result in a rapid shutdown of the plant.

- The fusion reactor won't generate long-lived radioactive products and the unburned gases can be treated on site.

What is India's plan in this regard?

- India has its own plasma research experimental tokamaks called 'Aditya' and SST-1 at the Institute of Plasma Research, Gujarat.
- These have given invaluable experience to Indian scientists because of which they have found a prominent place in the ITER project.
- India has not ventured into compact fusion research so far as it would require huge investments.
- India senses that if economically produced fusion power becomes mainstream, huge investments on compact fusion reactors would prove to be a waste.
- India is prudent therefore to keep an eye on developments in this field, conduct technological forecasts of fusion research and revisit future energy plans as needed.

6. DECLARATION ON DISTURBED AREA IN NAGALAND

Why in news?

- Union ministry of Home affairs has extended the declaration on Disturbed Area provisions in Nagaland till the end of June 2018.

What is the declaration on disturbed area is about?

- AFSPA has been introduced to contain the insurgents in areas declared as "disturbed" by the home ministry.
- Under this act security forces can "arrest without warrant" a person, who has committed or even "about to commit a

cognizable offence" even on "reasonable suspicion".

- It also restricts them from legal processes for actions taken under the act.
- Ministry of Home Affairs under Section 3 of the Armed Forces Special Powers Act (AFSPA) 1958, extended declaration on disturbed area in whole of the state of Nagaland.
- Such a declaration designating areas as disturbed remains operative in a few other places in the North-Eastern region.

What is the present state of Nagaland?

- The existing internal law and order situation in Nagaland as well as the broader security milieu within the state and its periphery has been largely peaceful in recent times.
- There are only short-term internal disturbances within few parts of the states which would be contained by the state government both through the employment of the state and central police forces.
- The law and order-related casualties are perceptibly on the decline and are also lesser in Nagaland than in a place like Delhi.
- The overall situation may not be susceptible to deterioration beyond acceptable levels without the Disturbed Area notification and the concomitant application of the AFSPA.

What are the reasons behind the extension?

- In 2015 union government made a framework agreement for reconciliation with insurgent group – the Nationalist Council of Nagalim (Issac-Muivah) (NSCN-IM).
- Further efforts are under way to include other Naga insurgent groups in the framework, and few insurgent groups like



NSCN-Khaplang group are not bound to the ceasefire agreement.

- Higher defence services headquarters and the Ministry of Defence as well as agencies like the Intelligence Bureau have advocated for continuance of the provisions.
- The government would have taken their views into account and chose the option of maintaining the status quo.

What are the concerns with this move of the government?

- In the North-Eastern public psyche, notifications on Disturbed Areas and AFSPA have been generally viewed as odious, undemocratic and coercive.
- The continued designation of the entire state as a Disturbed Area may not be deemed conducive for public morale.
- It will not engender a confidence-building environment for integration endeavour of the Nagas with the Indian Union.
- The central government's decision also denotes lack of confidence in the state government machinery for ensuring security.
- Moreover, this is seen as an indicative of the central government's apprehension to the effect that the state government's security apparatus or a plan to bring in president's rule.

What measures needs to be taken instead?

- It is noteworthy that such statutes or notifications have not been promulgated in left-wing extremism affected states like Chhattisgarh and Jharkhand.
- Disposition of the state's police forces, central police units, and the Army in and

around Nagaland would help to build confidence among the people.

- Isolated incidents and movements of insurgents can be obviated through the oversight provided by the ceasefire monitoring committees in place.
- Act east policy and projects like Trans-Asian highway would bring intermingling of cultures, promotion of trade and comprehensive welfare of the people in the state.

7. OBLIVION OF THE F-16 AIRCRAFT

Why in news?

- United States of America has planned to gradually phase out the F-16 fighter jets from its air force.

What is the significance of F-16?

- The F16 is a product of the Light Weight Fighter programme of US launched in the 1970's.
- The operational necessity was to outmatch the Soviet workhorse MiG21 in terms of combat manoeuvre.
- The life cycle of combat aircraft varies between 20 and 40 years, based on operational capability in the operational environment.
- But the F16 has stretched its longevity by undertaking frequent upgrades.

What is the need for phasing out F-16 aircraft?

- Nearly 30% of the global air defence forces is comprised of f-16 due to F-16's upgraded of avionics and weapons package.

- Due to modern developments of long-range electronic sensors, f-16 has started losing position core capability of a combat platform.
- Modern stealth technology and speed of new model aircrafts cannot be introduced in f-16 due to its basic design.
- The F16's metallic body, shape, edges and external weapons result in a large Radar Cross Section (RCS), obviates low observability.
- US is about to procure F-35 aircrafts, with its stealth design it is set to become the combat aircraft in the leading position.
- The momentum of production of the F35 will practically guide the phasing out pace of the F16.
- In the next decade, the operational inventory of the F16 is expected to reduce by half and the aircraft is likely to be phased out in another decade.

What is the role of F-16 in Indian combat?

- The Indian Air Force (IAF) is currently looking for over 100 single-engine combat aircraft and the F16 is in the fray.
- An order of this magnitude would be a lifeline for F16 production and enable the setting up of production facilities in India.
- But aircraft selection for the IAF will be a time-consuming process and the conclusion of the contract may take even longer.
- Irrespective of whether the IAF acquires the F16 or not, it is certain that this legendary aircraft is slipping into oblivion.

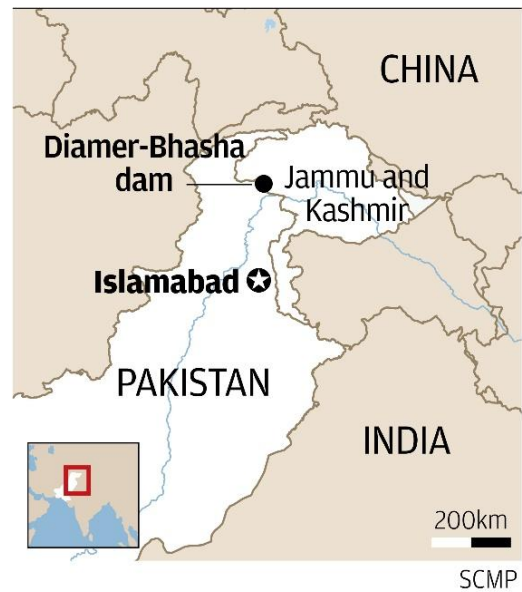
8.COMPLEXITIES WITH DBD PROJECT

Why in news?

- Pakistan has proposed to revive Diemer Bhasha Dam (DBD) project with indigenous funding.

What is the status of DBD project?

- The DBD is a proposed project over the Indus River, located in Gilgit Baltistan of PoK region.



- It would take 8 years to complete the project, once completed it would provide of 4500MW of electricity.
- The project was sanctioned under China Pakistan Economic Corridor (CPEC), under Chinese funding with “construct, operate and maintain” condition.
- Recently Pakistan opposed Chinese conditions and planned to source funds for the mega dam project domestically.

What are the complexities faced by Pak for DBD project?

- The project is politically contentious for Pakistan and considered ecologically



perilous, given its location in a high seismic zone.

- Pakistan lack funds to support the humungous construction cost conservatively estimated at \$14 billion a few years ago.
- Recently due to some financial disparities between Sino-Pak relations, China has shown disinterest in funding the project.
- Even some International Financial Institutions (IFIs) have refused to fund the project citing numerous complications.
- Pakistan approached the United States to rescue the project by urging it to divert funds from the non-military US development assistance.
- Both the US and China have been reticent on DBD given the size of the project and the consequent need for a large amount of funds.
- Thus Pakistan's determination to build the project with indigenous funding may prove even more difficult than obtaining foreign funding.

What are the concerns for India?

- India has consistently opposed the DBD project as it is based on its standing claims and rights to Gilgit Baltistan in PoK region.
- Though the DBD has been touted to enhance Pakistan's energy security, India would show its persistent objections at any cost.
- Despite the fact that the US and China have featured more prominently in the fray of potential funders for the project it is Russia and Japan have also been approached by Pak.
- If such co-operation emerges, then India would face serious threat.

9. TEST FIRING OF AGNI-V

Why in news?

- Recently long-range Surface-to-Surface Ballistic Missile Agni-5 was successfully flight tested from Dr Abdul Kalam Island, Odisha.

What is the significance of Agni missile?

- The Agni-5 is an intercontinental surface-to-surface ballistic missile (ICBM) with a range of more than 5,000 km.
- Agni missiles are a product of the Integrated Guided Missile Development Project (IGMDP) launched by the Ministry of Defence (MOD) in 1982.
- Agni -5 is the fifth missile in this series after Agni-1(700 km range), Agni-2(2000 km range), Agni-3 (2500 km range) and Agni-4 (3500km range).
- With an existing range of over 5000km, Agni-5 meets all the possible requirements as a nuclear weapon delivery vehicle
- Agni-5 as multiple options for Second Strike, due to India's No First Use (NFU) policy for nuclear weapons.

What are the reasons behind continuous LR missile tests?

- India's weapon developmental policies and actions are focussed on protection of geographical integrity, development of human resource, sustainable economic growth and preservation of a rule-based order.
- At the same time development of military capability is a key component of deterrence strategy.
- Long range weapons have two inherent strengths such as



- The ability to remain deployed in depth away from the high-intensity conflict zone.
- The ability to strike distant target systems thus expanding the battle space.
- Thus test flights are significant steps towards operationalization of a new weapons system.
- Air-launched long-range cruise missiles like BrahMos can provide effective deterrence but the continuous deployment of air power over the long range is resource intensive.
- In such a scenario, a conventional warhead ballistic missile like Agni-5 with MIRV can be a cost-effective tool.

What are the further goals of Indian Weapon Development?

- After tests in various configurations, further modifications and refinements in Agni -5 will take place in consultation with the end users to ensure robustness and operational efficiency.
- The expected improvement in Agni -5 missiles would be like enhancing its range to over 10,000km, and making the system capable of handling diverse target systems within existing range.
- Agni can be developed with a combination of multiple independent re-entry vehicles (MIRV) for a deterrence against non-nuclear entities.
- Enhancing the capabilities in identifying and locating the mobile target will also boost Agni-5's Indian deterrence capabilities in the Indian Ocean Region (IOR).

10.COMPLEXITIES IN DEFENCE BUDGETING

What is the issue?

- Military expenditure as a percentage of Gross Domestic Product (GDP) has reduced over a period of time.

How defence budget is estimated?

- Information about defence expenditure is not released in any public domain by the Ministry of Defence (MoD), it is classified as Non-plan expenditure.
- The amount allocated for defence spending under budget Statement are of two types
- **Revenue budget** - This includes the demand for the Army including Inspection Organisation, Ex-servicemen Contributory Health Scheme (ECHS), Military farms, Rashtriya Rifles & NCC, Navy (including Joint Staff), Air Force, DRDO and Ordnance factory boards (OFB).
- **Capital budget** - It includes procurement of land, creation and maintenance of infrastructure for storing arms and ammunition, Weapon systems, etc., it is commonly referred to as 'Modernisation Expenditure'.
- From 2017-18 budget ECHS and Military farms are part of MoD (Civil estimates).

What makes the defence expenditure costlier?

- The adverse movement of the rupee exchange rate reduces the purchasing power of the modernisation expenditure, as defence acquisitions are complex long drawn process.
- Change in governmental reigns and geo-political scenarios also makes defence expenditure an exorbitant one.
- Dependence on imported weapon systems involves high forex and custom duties.



- Apart from this manufacture license and technological transfers also adds up the cost.
- During training exercises the fuels for commutation and armouries used carries a high bill to the government apart from the maintenance of the weaponries.
- The demands of Inspection Organisation, ECHS, Military farms, Rashtriya Rifles & NCC increases the defence spending.
- If the allocation of previous budgets were insufficient, then the liabilities carry forwarded, compounding the budget burdens.
- Model which enables to spread the pay-out over the exploitation period of weapons and warheads needs to be examined for some of the acquisition programmes.
- The institution of higher learning in the Tri-service establishment needs to be tasked to brainstorm before making any defence proposals and procurements.

What measures needs to be taken?

- To reduce the defence expenditures the MoD has brought in new reforms like shutting the Military farms and cutting the **costs for NCC**.
- More FDI and Public Private Partnership (PPP) will help to reduce the defence spending somehow.