

POLITY AND GOVERNANCE

❖ **India's new proposal for migrant voting**

➤ **CONTEXT:** The Election Commission of India (ECI) could not demonstrate a prototype of its new Remote Electronic Voting Machine (RVM), which would allow domestic migrants to vote in national and regional elections, after the Opposition raised concerns about the logistical and administrative challenges to remote voting. The Congress had earlier urged the poll body to first “restore trust in the electoral system” and systematically address fears of the misuse of existing EVMs.

➤ **How do existing EVMs work?**

- EVMs started being used on a larger scale in 1992 and since 2000, have been used in all Lok Sabha and State Assembly elections.
- There have been three iterations of the machine with improved features, the latest one being the M3 model which was manufactured from 2013 onwards.
- Multiple political parties in 2010 approached the ECI to come up with a mechanism that could help verify that the EVM had recorded the vote correctly as intended by the voter. The ECI, thus, developed along with two Public Sector Undertakings (PSU), the Voter Verified Paper Trail Audit (VVPAT) machine to have a paper trail in the voting process. The use of VVPATs has become universal in elections since mid-2017.
- The current EVM setup has a Balloting Unit (BU) which is connected to the VVPAT printer, both of which are inside the voting compartment. The VVPAT is connected to the Control Unit (CU), which sits with the Presiding Officer (PO) and totals the number of votes cast, on its display board.
- Only once the PO presses the ballot button on the CU, does the BU get enabled for the voter to cast her vote by pressing the key corresponding to the candidate on the ballot paper sheet pasted on the BU. The VVPAT, which is essentially a printing machine, prints a slip with the poll symbol and candidate name, once the voter presses the key on the BU. This slip is visible to the voter on the VVPAT's glass screen for seven seconds after which it gets dropped off in a box inside the VVPAT. Once a vote is cast, the BU becomes inactive till the PO schedules the next vote by enabling it again from the CU.

➤ **What are the concerns about EVMs?**

- Concerned civil society organisations, civil servants who have overseen elections, academicians, journalists, former judges, and political figures formed the Citizens' Commission on Elections (CCE) in 2020, which conducted analysis, released a report in 2021 titled, ‘Is the Indian EVM and VVPAT System Fit for Democratic Elections?’.

• **The report highlighted**

- ✓ ‘democracy principles’ to be adhered to while conducting public elections.
- ✓ the election process should not only be free and fair but “also be seen to be free and fair”, meaning instead of being told to trust the process the general public should be provided with provable guarantees to facilitate this trust.
- ✓ the details of the EVM design, prototype, software, and hardware verification are not publicly available for technical and independent review, rendering it available only for a black-box analysis, where information about its inner-workings is not accessible.

- However, the ECI says that unlike other countries, Indian EVMs are standalone, are not connected to the internet, and have a one-time programmable chip, making tampering through the hardware port or through a Wi-Fi connection impossible.

- Multiple computer scientists have demonstrated that this claim does not stand up to scrutiny as it does not take into account ‘side-channel’, insider fraud, and trojan attacks.

- Besides, the OTP chip which cannot be rewritten, also has a flip side, even pointed out by G. V. L. Narasimha Rao in his 2010 book “Democracy at Risk! Can we trust our Electronic Voting Machines?”.

- The ECI sends the EVM software to two foreign chipmakers (in the U.S. and Japan) to burn into the CPU and the manufactured chips are then sent to India for assembly into machines by the two PSUs (BEL and ECIL). This means that the manufacturers cannot read back the contents of the software to ensure its integrity is intact. Functionality tests done by manufacturers can only reveal if the machine is working properly.

➤ **What are the problems with VVPAT?**

- Expert says that for the voting process to be verifiable and correct, it should be machine-independent, or software and hardware independent, meaning, the establishment of its veracity should not depend solely on the assumption that the EVM is correct.

- Ronald Rivest, an inventor of encryption, defined in his seminal 2008 paper that “a voting system is software (hardware) independent if an undetected change in software (hardware) cannot lead to an undetectable change in the election outcome,” or even if the voting machine is tampered, the same should be detectable in an audit.

- Expert contends that the current VVPAT system is not voter verified in its full sense, meaning, while the voter sees their vote slip behind the VVPAT's glass for seven seconds, it does not mean they have verified it. That would happen if the voter got the printout in their hand, was able to approve it before the vote is finally cast, and was able to cancel if there is an error.

- Former IAS officers, who has overseen both Assembly and Lok Sabha elections, notes that the “voter should have full agency to cancel a vote if not satisfied; and that the process to cancel must be simple and should not require the voter to interact with anybody”. Under the current system, if the voter disputes what they have seen behind the screen, they are allowed a test vote in the presence of an election officer, and if the outcome of the test vote is correct, the voter can be penalised or even prosecuted.
 - ✓ It is argued that this penalisation is discouraging.
- Additionally, the assurance given by the ECI that the EVM-VVPAT system is not connected to any external device has been questioned by former civil servants and multiple studies.
- For the VVPAT to be able to generate voting slips, the symbols, names and the sequence of the candidates need to be uploaded on it which is done by connecting it to a laptop.
- To create a VVPAT sheet on the laptop, an application is either downloaded from the ECI server or copied from a local device. It is then uploaded to another device or the Symbol Loading Unit (SLU) through a nine-pin cable, which in turn is connected to the VVPAT for upload. This process raises questions.
- **What are institutional safeguards?**
 - The ECI has said that EVMs and their systems are “robust, secure, and tamper-proof”, owing to the technical and institutional safeguards in place. The ECI claims that the safeguards, such as the sealing of machines with signatures of polling agents, first-level checks, randomisation of machines, and a series of mock polls before the actual voting, cannot be circumvented.
 - ✓ However, domain experts and former observers have shown that vulnerabilities can arise.
 - ✓ For example, according to a report since it is “known upfront that a fixed number of votes cast at the beginning of the polls in each polling station”, will be part of the third mock poll, “theoretically a hack can easily bypass the first few votes, thereby preventing detection of foul play as every key press in the EVM is date and time stamped”.
- **How will RVMs be different?**
 - According to EC’s concept note the Multi-Constituency RVM for migrant voting will have the same security system and voting experience as the EVM. This essentially means that the challenges mentioned earlier with regard to the current EVMs will persist when it comes to the RVMs.
 - The Commission says the RVM can handle multiple constituencies (up to 72) from a single remote polling booth. For this, instead of a fixed ballot paper sheet, the machine has been modified to have an electronic dynamic ballot display which will present different candidate lists corresponding to the constituency number of the voter read by a constituency card reader.
 - The ECI has added a digital public display unit or a monitor to act as an interface between the constituency card reader and the BU display. As for the commissioning process of the machine, the electronic ballot will be prepared by the Returning Officers (ROs) of home constituencies of voters, and forwarded to the remote RO for uploading in the SLU.

ECONOMICS

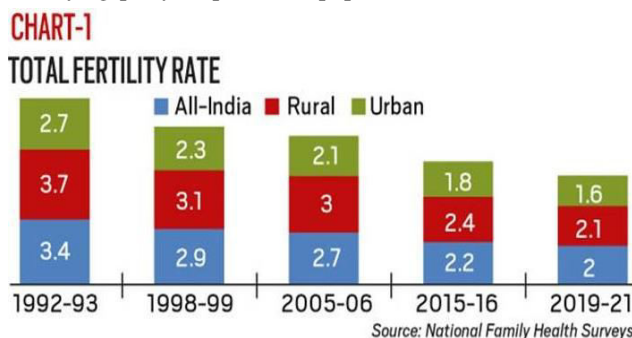
❖ **China’s population falls: How India’s situation is different, and possibly better**

➤ **CONTEXT:** China’s population, according to its National Bureau of Statistics, fell to 1,411.8 million in 2022, from 1,412.6 million in the previous year.

- An absolute decline in population is a landmark event, for a country that is soon set to be surpassed (if it has not already) by India as home to the most number of people.
- India has not conducted an official headcount Census after 2011. But going by the United Nations’ projections, its population stood at 1,417.2 million in 2022 (more than China’s) and is expected to reach 1,428.6 million in 2023.
- **China’s population shrinks: Mortality and fertility**
 - A country’s population increases with reduction in mortality or relative number of deaths. The population growth slows and may even go into reverse, like it has now for China with declining fertility rates.
 - Mortality falls with increased education levels, public health and vaccination programmes, access to food and medical care, and provision of safe drinking water and sanitation facilities.
 - The crude death rate (CDR) (the number of persons dying per year per 1,000 population) was 23.2 for China and 22.2 for India in 1950. It fell to single digits for China first in 1974 (to 9.5) and for India in 1994 (9.8), and further to 7.3-7.4 for both in 2020.
 - Another mortality indicator is life expectancy at birth. Between 1950 and 2020, it went up from 43.7 to 78.1 years for China and from 41.7 to 70.1 years for India.

Figure 1 shows how sharply the TFR has fallen for India in the last three decades

- The total fertility rate (TFR) (the number of



babies an average woman bears over her lifetime) was as high as 5.8 for China and 5.7 for India in 1950.

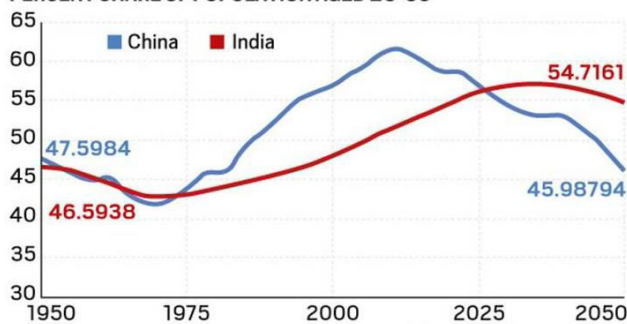
- The TFR has fallen sharply for India in the past three decades. Between 1992-93 and 2019-21, it came down from 3.4 to 2; the fall was especially significant in the rural areas.
- A TFR of 2.1 is considered as “replacement-level fertility”.
✓ Simply understood, a woman having two children replaces herself and her partner with two new lives. Since all infants may not survive, the replacement TFR is taken at slightly above two.

➤ **If India’s TFR is already below-replacement, why is its population still increasing? And how has China’s finally shrunk?**

➤ **Sustained lows necessary**

- The TFR is the average number of births by women aged 15-49 based on surveys for a particular period/year. Populations can keep growing even with TFRs falling. De-growth requires TFRs to remain below replacement levels for extended periods. The effects of that (fewer children today becoming parents tomorrow and procreating just as much or less) may reflect only after a couple of generations.
- China’s TFR dipped below replacement first in 1991, which was almost 30 years before India’s. Recall that the CDR decline below 10, too, happened two decades earlier for China. China’s population more than doubled from 544 million in 1950 to 1.1 billion in 1987 and peaked in 2021. It took over 30 years for below-replacement fertility rates to translate into negative population growth.

CHART-2
PERCENT SHARE OF POPULATION AGED 20-59



➤ **Why China faces a crisis**

- China’s TFR, according to its 2020 Census, was 1.3 births per woman — marginally up from the 1.2 in the 2010 and 2000 censuses, but way below the replacement rate of 2.1. China officially ended its one-child policy, introduced in 1980, from 2016. But that’s unlikely to stem the decline in the country’s population, which the UN has projected at 1,312.6 billion in 2050, a near 100 million drop from the 2021 peak.
- The real crisis for China, however, is the decline in its population that is of prime working age. If there is a large population that’s able to work and earn, not only will there be relatively fewer people to support (those too old or too young) but also greater tax revenues and savings potential from the generation of incomes. As these are directed to finance investments, a virtuous cycle of growth is unleashed — as indeed it happened in China.
- But that cycle has started to reverse, and the share of China’s working-age population is projected to fall below 50% by 2045.

➤ **India’s opportunity**

- India has just begun seeing fertility rates fall to replacement levels, including in rural areas.
- The latter has to do with the spread of education — and, perhaps, also farm mechanisation and fragmentation of landholdings.

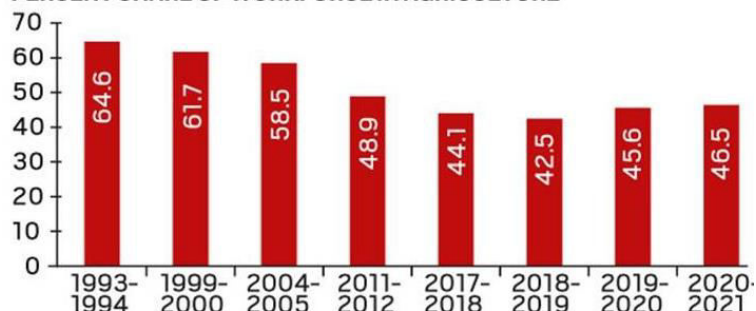
Figure 2 Percent share of working-age population in India, China

- Reduced labour requirement in agricultural operations and smaller holdings make it that much less necessary to have large families working the land.

Figure 3 Share of workforce in agriculture has slowed

- But even with fertility rate declines, India’s population is projected to expand and de-grow only after touching 1.7 billion about 40 years from now.
- More important is the working-age population: its share in the overall population crossed 50% only in 2007, and will peak at 57% towards the mid-2030s.
- Overall then, India has a window of opportunity well into the 2040s for reaping its “demographic dividend”, like China did from the late 1980s until up to 2015.

CHART-3
PERCENT SHARE OF WORKFORCE IN AGRICULTURE



Source: Employment & Unemployment and Periodic Labour Force Surveys

However, this is entirely contingent upon the creation of meaningful employment opportunities for a young population — in the absence of which, the demographic dividend can well turn into a demographic nightmare.

PRELIMS

1. High horsepower engines

➤ **CONTEXT:** Taking a leaf out of some international models of manufacturing and procurement, Indian Railways has partnered with global mobility solutions major Siemens to produce 1,200 high horsepower electric locomotives at an overall cost of around Rs 26,000 crore.

- While Railways has had such arrangements before, notably with other global majors like Alstom and General Electric to procure locomotives from factories in Bihar's Madhepura and Marhowra respectively, the pact with Siemens is special because this model is new in India.

➤ **What is new?**

- No capital expenditure liability in this contract. This is because all the locomotives will be manufactured in Railways' newly built factory in Dahod, Gujarat. The manpower in the factory will also be supplied by Railways. Siemens will bring in material procurement, supervision and the technology to make the 9,000 horsepower engines.

- Regular Railways locomotives have between 3,000 and 6,000 horsepower. The ones being made in Madhepura are 12000 horsepower strong while those in Marhowrah are of 6,000 horsepower each.

- In the Madhepura-Marhowra projects, the then innovative model for which was finalised as early as 2008 but the factory finally took off around 2015, Railways gave land for the factory whereas the technology partners did everything else, including setting up the factory and supplying the manpower. This was called Procurement cum Maintenance Agreement, whereas the current one with Siemens is called Manufacture cum Maintenance Agreement. The contract is for 35 years, including maintenance, which is pretty much the entire lifecycle of the engines.

- The advantage that this, like in Madhepura-Marhowrah, is an "assured offtake" model, wherein, all the 1,200 engines are pre-bought by the client, so there is zero risk.

- Globally, another transportation solutions major Bombardier has a somewhat similar model called FlexCare, for engagement with clients on long-term maintenance of the vehicles it makes.

➤ **When do these engines start rolling out?**

- The first engine will take two years to come out because setting up the factory will take that much time. The network operator also needs the appetite for absorbing the engines, which is based on the currency of its existing stock. Considering that, the roll-out has been staggered over 11 years. Starting with around five a year, the factory will be churning out 160 engines per year in the final couple of years.

- Additionally, Siemens will also carry out maintenance of these engines at depots in Visakhapatnam, Raipur, Kharagpur, Pune using Railways manpower.

- Siemens will also ensure 95 per cent availability and 1,50,000 km of trouble-free operation of the locomotives before any maloperation can take place, as the guaranteed Key Performance Indicators under the contract.

➤ **How does Indian Railways benefit?**

- The agreement will ensure upskilling of Railway production manpower as well as technology upgrade of its own production capability. Two of the 1,200 locomotives have been earmarked for export, to test international market potential.

- ✓ In the "Make in India" ecosystem, is that if Railways straightaway purchased from a technology vendor, its own manpower and production systems would not benefit.

➤ **How to use these engines?**

- Indian Railways is calling these high horsepower (9000 HP) locomotives "future workhorse" for freight operation.
- These locomotives are planned for use primarily on the Western dedicated freight corridor and on graded sections of Railways for hauling container freight trains at steep gradients and improve the average speed of such trains to around 50-60 kmph over the existing 20-25 kmph.

➤ **What about diesel engines?**

- Government has taken the policy decision to gradually electrify 100 per cent of its broad gauge rail network of around 66,000 km.

- ✓ As a result, there is a move to slowly retire end-of-life diesel locos. However, Railways will keep a stock of around 2,000 high horsepower diesel locomotives for various needs, like contingencies, linking and other operations necessities.

2. Loan loss provision

➤ **CONTEXT:** The Reserve Bank of India (RBI) recently published a discussion paper on "loan loss provision", proposing a framework for adopting an expected loss (EL)-based approach for provisioning by banks in case of loan defaults.

- The RBI's proposal is based on the premise that the present "incurred loss"-based approach for provision by banks is inadequate, and there is a need to shift to the "expected credit loss" regime in order to avoid any systemic issues.

➤ **What is loan-loss provision?**

- The RBI defines a loan loss provision as an expense that banks set aside for defaulted loans. Banks set aside a portion of the expected loan repayments from all loans in their portfolio to cover the losses either completely or

partially. In the event of a loss, instead of taking a loss in its cash flows, the bank can use its loan loss reserves to cover the loss.

- Since the bank does not expect all loans to become impaired, there is usually enough in the loan loss reserves to cover the full loss for any one or a small number of loans when needed.
- An increase in the balance of reserves is called loan loss provision. The level of loan loss provision is determined based on the level expected to protect the safety and soundness of the bank.
- **What is the expected loss-based approach?**
- Under this practice, a bank is required to estimate expected credit losses based on forward-looking estimations, rather than wait for credit losses to be actually incurred before making corresponding loss provisions.
- As per the proposed framework, banks will need to classify financial assets (primarily loans, including irrevocable loan commitments, and investments classified as held-to-maturity or available-for-sale) into one of three categories (Stage 1, Stage 2, or Stage 3) depending upon the assessed credit losses on them, at the time of initial recognition as well as on each subsequent reporting date, and make necessary provisions.
 - ✓ **Stage 1** assets are financial assets that have not had a significant increase in credit risk since initial recognition or that have low credit risk at the reporting date. For these assets, 12-month expected credit losses are recognised and interest revenue is calculated on the gross carrying amount of the asset.
 - ✓ **Stage 2** assets are financial instruments that have had a significant increase in credit risk since initial recognition, but there is no objective evidence of impairment. For these assets, lifetime expected credit losses are recognised, but interest revenue is still calculated on the gross carrying amount of the asset.
 - ✓ **Stage 3** assets include financial assets that have objective evidence of impairment at the reporting date. For these assets, lifetime expected credit loss is recognised, and interest revenue is calculated on the net carrying amount.
- **What are the benefits of this approach?**
- The forward-looking expected credit losses approach will further enhance the resilience of the banking system in line with globally accepted norms. It is likely to result in excess provisions as compared to shortfall in provisions as seen in the incurred loss approach.
- **What is the problem with the incurred loss-based approach?**
- The incurred loss approach requires banks to provide for losses that have already occurred or been incurred.
- The delay in recognising expected losses under an “incurred loss” approach was found to exacerbate the downswing during the financial crisis of 2007-09.
- Faced with a systemic increase in defaults, the delay in recognising loan losses resulted in banks having to make higher levels of provisions which ate into the capital maintained precisely at a time when banks needed to shore up their capital. This affected banks’ resilience and posed systemic risks.
- Further, the delays in recognising loan losses overstated the income generated by the banks which, coupled with dividend payouts, impacted their capital base because of reduced internal accruals — which too, affected the resilience of banks.

ANSWER WRITTING

Q. United Nations (UN) in its recent meeting unable to articulate the concerns of developing and smaller states including India. Discuss the need for reforms in the United Nations Security Council (UNSC).

Answer :

The United Nations Security Council (UNSC) is one of the six principal organs of the United Nations (UN). It primarily has the responsibility for the maintenance of international peace and security, recommending the admission of new UN members to the General Assembly, and approving any changes to the UN Charter. It has 15 Members out of which 5 are permanent members – the US, China, Russia, France and the UK.

Need for reforms in the UNSC:

- **Regional representation and size:** The number of Member States has nearly quadrupled since 1945 and the regional composition of the membership has also changed. However, the size and composition of the council have remained virtually unchanged since its foundation. For instance, Africa (54 members, 0 permanent seats), Asia (54 members, 1 permanent seat) and Latin America and Caribbean States (33 members, 0 permanent seats) remain underrepresented.
- **Changing geopolitics:** The geopolitical rivalry among the permanent members has prevented the UNSC from effectively dealing with global issues such as the Rohingya crisis, the Russia-Ukraine conflict and the Taiwan issue.
- **Veto held by permanent members:** Veto power has been criticised as non-democratic and “a self-chosen club of the privileged”. It restrains the council to make necessary decisions whenever it displeases any of the permanent members.
- **Issue of Transparency:** The permanent members of the UNSC meet privately for deciding on an issue and then present their resolutions to the full council. This looks like a private club that secretly comes to decisions. This results in opacity in decision-making.
- **The emergence of new powers:** The rise of G4 countries i.e., India, Brazil, Germany, and Japan as important and emerging economies demand reforms in the UNSC. The G4 calls for the enlargement of both permanent and non-permanent categories as well as supporting each other’s bids for permanent seats on the council.

- Effective resolution of challenges: The issues that the Security Council deals with have diversified over the past 75 years including peacebuilding, conflict prevention, non-proliferation, counter-terrorism and protection of civilians. The UN needs a Security Council that can come up with effective resolutions and implement its decisions promptly and efficiently.

India has been at the forefront of the years-long efforts to reform the security council and has represented the countries of the global south. UNSC without comprehensive reforms faces a crisis of confidence. World today requires reformed multilateralism that bespeaks the realities of today, gives voice to all stakeholders and engages with contemporary challenges.

MCQs

- 'Recognition of Prior Learning Scheme' is sometimes mentioned in the news with reference to
 - Certifying the skills acquired by construction workers through traditional channels.**
 - Enrolling the persons in Universities for distance learning programmes.
 - Reserving some skilled jobs to rural and urban poor in some public sector undertakings.
 - Certifying the skills acquired by trainees under the National Skill Development Programme.
- With reference to replacement-level fertility consider the following
 - Total Fertility Rate of about 2.1 children per woman is called Replacement-level fertility.
 - TFR lower than 2.1 children per woman indicate that a generation is not producing enough children to replace itself, eventually leading to an outright reduction in population.
 Which of the above statement/s is are correct?
 - 1 only
 - 2 only
 - Both 1 and 2**
 - Neither 1 nor 2
- The postal ballot voting outside the constituency is available to
 - Service voters
 - Persons on election duty
 - Person on preventive detention.
 - People with disabilities
 Select the correct answer using the code given below.
 - 1 and 3 only
 - 2 and 4 only
 - 1, 2 and 3 only**
 - 2, 3, and 4 only
- Consider the following statements
 - The RBI Act 1994 defines a loan loss provision as an expense that banks set aside for defaulted loans.
 - Banks set aside a portion of the expected loan repayments from all loans in their portfolio to cover the losses either completely or partially.
 Which of the above statement/s is/are correct?
 - 1 only
 - 2 only**
 - Both 1 and 2
 - Neither 1 nor 2
- Recently Archaeological Survey of India all set to begin excavation at Purana Qila again after 2014, the Purana Qila was built by which of the following ruler?
 - Sher Shah Suri and second Mughal emperor Humayun**
 - Yadgar bin Qasim Kuchum Khan
 - Ratan Singh of Amber
 - Akbar
- Which of the following state recently launched the "Destination Challenge" initiative increase its tourism potential?
 - Andhra Pradesh
 - Maharashtra
 - Odisha
 - Kerala**
- With reference to the International Monetary and Financial Committee (IMFC) consider the following statements:
 - IMFC discusses matters of concern affecting the global economy and advises the International Monetary Fund (IMF) on the direction of its work.
 - The World Bank participates as an observer in IMFC's meetings.
 Which of the statements given above is/are correct?
 - 1 only
 - 2 only
 - Both 1 and 2**
 - Neither 1 nor 2
- Consider the following statements
 - A minority, whether linguistic or religious, is determinable only by reference to the demography of the State.
 - T.M.A. Pai Foundation case of 2002 SC had clarified that "the unit for determining status of linguistic and religious minorities would be 'State'".
 Which of the statements given above is/are correct?
 - 1 only
 - 2 only
 - Both 1 and 2**
 - Neither 1 nor 2
- Consider the following statements on 'Sagar Parikrama':
 - It is launched by Ministry of Ports, Shipping and Waterways.
 - It is focused at fishermen community.
 Which of the statements given above is/are correct?
 - 1 only
 - 2 only**
 - Both 1 and 2
 - Neither 1 nor 2
- Garzweiler open-cast mine often mentioned in news situated in which of the following country?
 - Germany**
 - Poland
 - France
 - Ukraine