

**RADIO SCIENCE SERIAL
SUSTAINABLE DEVELOPMENT
LIFE MUST GO ON - LIFE JAI THAKI BOLE LAGE
TOPIC - A SMART WAY OF CONSUMPTION
THIK PHELA PARA CHOLA
EPISODE - 13**

Aji laga episode he ki dikhai dibole kuri ase koile, common manu khan, din - din te energy upor te duk lok pa aro, kinika kuri le bhal hobo etu huni pabo. Aro, mass level te energy efficiency bhal hobole khujis kurea, National Mission For Enhanced Energy Efficiency (NMEE) aro desh te sorkar aro NGO's khan para kam kurea laga khobor khan bi, etu episode te huni pabo. Sustainable para, energy kisim te pa khan chola bole lage aro bhabana para noutun noutun bana bole niun khan bi, aji laga episode dramatize te huni bo.

**SCENE - Cricket commentary, exciting match, shout of public.
Commentary at the background.**

Alung - (Excitedly) Yes!! Ekta boundary ! khali ekta boundary ? Choh! India! boundary mari bi!

SFX: Sudden stops of commentary.

Alung - Ayah! etea power kati kobole homoi naki? (**calls out**) Amma! etea ami kinika khel sabo! Amma! huni ase na nai? etea tu amar khan bi homoi hoi she dae....

Mother - (from afar) Lunglung, ki ase? ki hoi she?

Lung - (a bit louder) Eman bhal para khel jai thaka, power jai jai she. Etea tu, dui konta nahi bo, load shedding ase. Ghor te generator rakhi bole baba ke kobi nah, kom si kom battery aro inverter hoile bi rakhi bole kobi dae amma.

Mother - (laughs & says) Hoi she, hoi she, Lunglung apunar tu. (**laughs again**)

Lung - Naha shi bi nah amma! ami laga exam khotom hoi she... Sunday din khushi pai kena bohi bo koi sele! sabi toh! alchi bi lage.

SFX: footsteps

Father - Amma aro bachha ki eman hala? ki hoi she Lunglung

Lung - Baba , ami generator set lage. Battery aro inverter hoile bi, ghor te rakhi le bhal hobo.

Father - (**laughs**) thik ase, bhabi sabo!

Lung - Etu upor te kotha kuri bole eku nai dae! Baba! ami ekdom serious para koi ase.

Father - Achha toh duijon bi serious para kotha pata bo.

Lung - Baba, etu upor te, kotha pata bole eku kam nai dae. Loi le, hoi she.

Mother - Ami bi kitea ba tu, Lunglung koa tu thik he lage. Ghor te inverter set ekta tu rakhi le bhal hobo kile mane, power jai thaka nimate, kam khan bi, kuri bole napari kena, jama hoi ase.

Lung - Hoi, amma hosa koi she!

Father - Lunglung, apunar bi dagor hoi ase, power upor laga kotha khan buji pai thaki bo.

Lung - Hoi.

Father - Sawal tu etu ase, power tu kile jai thake?

Lung - Asani ase! Load shedding thaka nimate ase!

Father - Kile load shedding thake?

Lung - Power kom thaka nimate!

Father - Etu tu, aadha hosa kotha he ase dae, Lunglung.

Lung - Kinika? Ami na buje.

Father - Ami koi dibo, aro apunar mon bitor tak te bhabana kuri bi. Amar khan kile power kom lok pai koile, amar khan pa para bi bishi cholai loa nimate ase. Alak para bi koile, supply pa para bi, lagea he bishi hoa karone ase.

Lung - Etu tu ami bi jane baba, kintu, ami khan power produce kuri bole napare.

Father - Lunglung akobi apunar aadha a - sol kotha koi she. Ami khan power pabole pare dae.

Lung - Hoitoh! generator cholai kena. Etu he ami koi ase nah! ami khan generator kini bole lage.

Father - Eman tara - tari nahobi Lunglung, duijon , ekta ekta para, point khan kobo dae!

Lung - Mane?

Father - Duijon , power laga demand & supply - mane, lagea aro pa laga majot deficit upor kobo. Amar khan kile, power komti hoa lok pai thake, ekta tu ase, amar khan, thik hisap para electric power na chola nimate ase.

Lung - Hoile bi baba, ami khan kinika electricity thik para chola bole lage? Huh baba?

Father - Etu he toh! etu nimate amar khan laga area - jaga ke survey - sai sabi.

Lung - Survey? baba, apunar kotha alak phele loi jabole khujis kurea nahoi leba, ami ke pakala bana bole tu nahoi hola?

Father - (**laughs & says**) Nai, nai, Lunglung enika nahoi! apunar ke kile survey kuri bi koi ase, aro apunar kinika kuri bole lage, ami koi dibo.

Mother - (**Calls out**) Piche te he survey kuri bi. Poihila ahi kena bhaat khai lobi. Bhaat ulai di she dae!

Lung - (**a bit louder**) achha amma ahi ase. Baba ahi bi, bhaat kha somoi te, koi di bi.

Father - Choh! choh! ako hala nakurea a - got jabo.

(Change of scene Music - few secs)

Lung - Baba... baba...

Father - Ki ase Lunglung, ki hoi she?

Lung - Sabi baba! ami survey kurea tu khotom hobole he ase. Ami dikhi pa khan bi likhi kena ase. Sabi!

Father - Lunglung, apunar bishi bhal kam kuri she dae! etu bi ek hapta bitor te. bhal ase.

Lung - Ami ki dikhi she koile nah baba! (R) bishi bhak dukaan khan te, tube lights aro halogen lights chola dikhi she. CFL lamps chola tu, eman nai, a - lop he ase.

Father - Lunglung, LED bulbs ki ase jane?

Lung - Hoi, LED bulbs khan bi dikhi she, kintu, dagor showrooms khan te he dikhi she. Tar khan LED panels cholai. Hoilebi nah baba! alak logot sai saile, komti ase.

Father - Apunar sawal laga jawab te, u - sor hoi ase, etea tu.

Lung - Hoi baba, ami bi etu bhabi ase. Judi, ami khan, dusra jati khan na cholai kena, LED bulbs he cholai le, bhal hobo, power komti khai. Aro, CFL bulb logot sai saile, hawa - paani ke bi na chobo. LED lamps khan cholai le, kom kha logot, light bi bhal mane - ujala hoi.

Father - Choh! etu he ase toh! LED bulbs cholai le, energy ke bachai. Dusra para koi le, ami khan efficiency koa ke bhal para akobi bhal hobole dibo.

Lung - Toh... ami khan, enika para, electric bacha bole parile , ami khan la - gi thaka ke, hisap ekta te pai thaki bo aro load shedding bi nami bo!

Father - C-O-R-R-E-C-T - thik koi she! etu karone, amar khan laga sorkar para, subsidized daam te, pabo nimate, LED lamps khan promote kuri ase.

Lung - Kintu baba, electric energy hisap te chola bo nimate awareness campaign thaki bole lage nahoi?

Father - Hoi, sorkar kuri ase Lunglung. Amar khan laga sorkar etu karone 2008 saal te, National Mission on Enhanced Energy Efficiency milai kena, aata national missions choi kena, pu - ra desh nimate, din botli upor te, action plan - kam kuri bole laga banai kena u - lai dishe.

Lung - Ki koi sele baba?... Din botli upor te action plan?

Father - Hoi.

Lung - Hoi lebi, climate change aro energy efficiency duijon laga ki relation ase!

Father - Ekdom u - sor relation ase dae!

Lung - Kinika baba.

Father - Amar khan, thermal power stations khan para electricity pai. India te electricity 71% chola tu, thermal power plants para ase dae. A - sol tu, India te power sorse dagor pa tu, thermal power para ase. Steam - dhunga u - la bo nimate , fuel chola upor te, thermal power plants kisim ase. Etu khan ase, kaala pather, gas aro diesel. Hoilebi, India laga electricity lagea pabo nimate, 62% upor tu, desh laga dagor kaala pather jama hoi kena thaka te pai loi.

Lung - Oh... ami buji she. Ami khan jitea kaala pather nahoi le ba, mati niche te chola bole pa - fuels khan, steam generate kure, hawa - paani bishi moila kuri de nah?

Father - Etu ekela nahoi kena, carbon bishi u - lai joa nimate, global warming bi hobole dae. Etu karone, amar khan, dhyan para electricity chola bole lage.

Lung - Hoi, ami jani ase. Na cholai koile amar khan electrical samaan khan sop bon kuri di bo lage.

Father - Thik koi she. Hoile bi, khali amar khan nijor ghor khan ekela te nahobo lage. Office khan, public jaga khan , mane - theatres, auditoriums, halls khan aro railway trains tak bi hobo lage. Na cholai koile , fans - pangkhan aro light khan sop bon kuri dibo lage.

Lung - Aro, energy bishi najabo nimate, air conditioning machines khan bi 24 to 26 degree centigrade temperature range te he chola bole lage. ami thik koi she nah baba!

Father - Thik koi she!

Lung - Kintu baba, ami khan solar energy te he mon dile kinika? ami khan desh te tu... eman bishi gham pai.

Father - Hoi, amar khan desh nimate, solar energy tu bhal ase. Sapha energy bi ase, aro eku moila bi na ani dea. Solar energy bishi cholai kena, carbon u - la ke namai dibole , India pledge kuri kena ase.

Lung - Hoi?

Father - Hoi toh! ja saal Paris te, climate change upor te, United Nations conference thaka te, India he, by 2030 pungchi kena tu, greenhouse gases para, 2005 levels upor one third te u - la rate ke komti kuri bole pledge kuri she. Amar khan laga sorkar para akobi , solar energy tu khali electricity pabo karone he nahoi koi ase dae, solar energy tu, paani khan gorom kuri bole, industries aro kheti khan te, bana samaan khan suka bole, etu khan nimate promote bi kuri ase. Kintu...kisoman dagor dikdari bi..

Lung - Daam! nah?

Father - Hoi, solar panels laga daam tu, ekta dikdari ase aro dusra tu, solar panels u - tha bole, kinika jaga pabo, etu ase.

Lung - Ummm...

Father - Hoile bi, amar khan laga scientists khan, etu upor te ekdom kam kuri ase aro aji kali he tar khan, noutun bhabana pai loi she.

Lung - Noutun bhabana? kaun tu baba?

Father - Solar gaas mane- solar tree!

Lung - Solar gaas? WOW! bishi interesting hune.

Father - Hoi. Amar khan laga desh te tu, raasta bana bole, factories aro dusra infrastructure khan nimate mati kotha tu dikdar ase. Bishi bhak te tu , mati para hatai dea manu khan para namanea laga beya nium bi dikha u - lai.

Lung - Toh...!

Father - Etu solar tree bana bole bhabana tu hoile, kut jaga te sorse jaga nalobo aro para tak solar power pabole tu ase.

Lung - Umm..... kinika?

Father - Etu , solar tree koa te, photo voltaic panels ase, steel para bana branches upor te, a - lak a - lak levels te rakhi di bo. Five kilo watt power pabole , jaga char sau sq feet lobole tu, etu cholai she koile, char sq feet nishina he lobo. Etu design para, hundred times nishina tak jaga ke bachai. Solar tree para energy pabole, scientists khan hisap kurea tu, paasta ghor ke light dibole pari bo koi she dae.

Lung - Ooo... etu tu bhal ekta ase dae! amar khan laga scientists khan pari she nah??

Father - Hoi toh! Kolkata te, CSIR - Central Mechanical Engineering Research Institute constituent laboratory of council of scientific & Industrial Research khan design kuri she aro, desh te, solar power pabo nimate a - sol chunauti ekta lok pa ke jiti bole umeed kuri ase.

Lung - Hoile bi baba, din, saal, moina khan jai jai kena, etu solar panels khan ke, kinika sapha kuri bo? mati para a - lop u - cha te rakhi dea hobo,

Father - Bhal sawal. Amar khan laga scientists khan bi, etu upor te bhabi loi she Lunglung. Panels khan, tar khan nijor ke sapha hobole , water sprinkler khan solar tree laga upor te rakhi di she.

Lung - WOW! etu tu bhal bhabana ase dae baba.

Father - Lunglung, etu solar tree laga dorkar ba bhal ekta ase dae!

Lung - Hoi? ki ase baba?

Father - Etu tree te, rakhi dea photo voltaic panels laga angle bi botli kuri bole pare.

Lung - Etu mane, gham kut jaga te mari ase, tate phele solar panel ke hila bo nah? gham para mari bo nimate?

Father - Hoi, etu he koi ase. Tate, Tar akobi bishi bhal para kam kuri bo. Aro, photo voltaic panels ke, u - cha te dhuri kena rakhi she koile ekdin te, ek konta nishina, gham marea tu akobi bishi pabo. Etu nimate mati te, conventional nium logot sai saile, ten, fifteen percent akobi power pabole pare.

Lung - Baba ami nah! **(R)** amar khan laga sorkar aro, dusra organizations khan para kam kurea upor jani bo mon ase. Net te bi bisari bo ami.

Father - Net te apunar sop dikhi pabo, hoilebi apunar etu khobor ki raasta para aro pabo koi di bo.. aro bhal bi bhal ase.

Lung - Kaun tu wala baba?

Father - Ami logot eki puri thaka, Sanika Shenoy, tar NGO, kaun tu he, energy consumption aro energy efficiency enhance - uti bole karone noutun noutun bhabana khan ke promote kuri bole awareness campaign te kam kure. Aha kali, ami duijon tar office te jai kena lok kuri bo aro, apunar ki jani bole mon ase hudi lobi.

Lung - Hoilebi baba, ami laga school?

Father - Ek din karone eku nahoi Lunglung, bhal kam nimate school naja he hobo.

Lunglung - Etu bi thik he ase baba.

Father - Achha toh! ami tar ke janai dibo.

-Change of Scene Music -

SFX: Footsteps 2 persons, knocking of door

Father - Ami bitor te ahi bole pari bo?

Sanika - **(from inside)** Yes, ahi bi!

SFX: Door opens.

Welcome! Sam! ahi jai she nah! eman saal pichot aji lok kuri ase.

Father - Hoitoh hoitoh , social media te tu lok kuri thake...

Sanika - Hello! huru scientists ! kinika ase?

Lung - Bhal ase.

Father - Amar chokora, etu ami koi thaka Sanika... Dr. Sanika Shenoy ase dae!

Sanika - Apunar bhal naam tu ki ase?

Lung - Lunglung ase madam.

Sanika - Achha, Lunglung amike Madam namati bi, eku formalities nalage dae! aunty mati bi dae!

Lung - Achha thik ase.

Sanika - Toh, amar khan si -da point te jabo, ami ki phele para modot kuri bo? apunar ke?

Father - Sanika, apunar tu, energy kotha khan upor te aro energy ke kinika aro thik para chola bole lage etu te, awareness prog: khan te ekdom hili kena kam kuri ase...

Sanika - Hoi, hoi.

Father - Toh... aji duijon yate apunar logot ahea tu, etu phele jani bole mon hoi kena ahi she. Apunar laga NGO aro apunar nishina, dusra NGOs khan aro amar khan laga sorkar para kisim plans aro schemes banai dea khan Lunglung para jani bole mon ase.

Sanika - Ooo... achha! achha! thik ase. Etu khobor khan ami apunar logot kobole khushi pai. Apunar bi, apunar thaka jaga manuhar khan logot , etu khobor khan janai dile akobi ami, apunar upor te, khushi pabo, kuri bo nah Lunglung?

Lung - Hoi aunty kuri bo.

Father - Amar chokora tu, umer aro gao te sabole nahoi Sanika. Moks bhal ase. ki ki khan ekdom jani bole mon thake.

Sanika - Um! bhal ase. Enika manu lage. NGO hisap te, amar khan energy para pa khan kinika bhal para chola bole lage etu jankari khan dea. Khali ghor khan ekela te nahoi kena, industries , transport systems, commercial jaga khan aro alak jaga khan te, kinika chola bole lage, etu khan koi dea. Aro, etu upor te, ami khan, sorkar agencies khan logot kam kure... tar khan laga modot loi kena, town cities jaga khan aro bosti khan te birai kena kam kure.

Father - Etu tu bishi bhal ase. Amar khan laga sorkar bi, energy efficiency akobi u - thai dibole kam bishi tu kuri ase.

Sanika - Hoi,hoi saal 2015 te, amar khan Hon'ble Prime minister para, light julai kena power lagea khan bishi namai dibo karone, dusra lamps khan botli te, LED lamps chola bole 'prakash path' koi kena scheme ekta

khuli di sele. Electricity load ke namai dibole, electricity distribution companies khan para, electricity chola khan nimite , subsidized price para energy efficient fans-pangkha khan bi di ase.

Lung - Ami LED lamps khan tu jane, hoilebi, energy efficient fans tu, hunea nai.

Sanika - Ase dae Lunglung. Ami khan, non - conventional phele para energy, solar energy nishina bi chola bole promote kure. Non - conventional energy resources phele, ministry, etu bi duniya te sorse poihi banai kena thaka tu, India ase. Saal thaki she... 1980's te.

Father - Oh hoi naki, ami tu etu najani kena thaki she.

Sanika - India laga energy policy bishi bhak ki para jane koile, desh laga energy kom hoi thaka aro nuclear, solar aro wind energy alak para loi kena, energy akobi dusra bana bole ke u - thai dibole tu ase. India para, hydel energy, wind energy aro solar energy nishina khan laga renewable sources of energy cholai kena, bosti khan ke light di ase.

Lung - Aunty, nuclear energy tu ki ase?

Sanika - Lunglung nah! Electricity te, thermal, hydroelectric aro renewable khan pichot India te, nuclear power koa tu sorse dagor, fifth te thaka ekta ase. 2016 saal para, 6780 mega watts capacity rakhi kena aro, 30,000 giga watts upor electricity dibole para saata jaga te, India he, 22 nuclear reactors chuli bole pari kena ase, akobi , electricity , 8000 mega watt aro pabo nimite, eleven reactors banai ase.

Lung - Etu pari she koile, ami khan load shedding aro power jai thaka na thaki jabo. Hoi na nahoi?

Sanika - Etu bi ase, consumer- electricity chola manu khan, jun khan chola daam dibole tayari thaka khan quality power supply eku dikdari mane - homoi homoi te jai thaka lok nakuri bole right ase.

Father - Hoi, enika hobole lage. Thik ase! kintu, etu tu ekdom chunauti kam hobo.

Sanika - Hoi. Sabi nah! bosti te, 56% bosti ghor khan etea tak bi electric napai kena ase. Etu ghor khan electricity chola daam dibole monjur hoi kena thaki le bi, eman jon ghor khan electric napai kena bohi ase. Bosti khan te electricity sop ghor khan te dibole karone, pariibo koa laga kam kuri bole lage. Aro etu upor te, thik rate te dukhi khan bi electricity tu pabo nimite sabo lage.

Father - Hoi le bi Sanika, sop ghor khan ke, electricity dibo koile, amar khan pa laga electricity ekdom hisap aro thik para chola bole lage.

Sanika - Hoitoh, amar khan laga moral responsibility ase aro, jani jani kena kam tu kuri bole lage.

Lung - Kinika kam aunty?

Sanika - Electricity , thik aro hisap te chola logote, amar khan, rated gadgets khan chola bole lage.

Lung - Kintu, etu khan tu a - lop daam ase nahoi?

Sanika - Hobo pare Lunglung, hoilebi, etu samaan - gadgets khan tu, power eman na khai . Toh... power chola daam eman tera bole na ulai dae Lunglung.

Father - Hoi, etu tu hosa ase.

Sanika - Aji kali tu, electrical samaan - gadgets mane - Air conditioning machines , refrigerator, ovens enika khan tu, khali rated kurea nahoi, petroleum conservation Research Association (PCRA) for LPG stove logot mili kena Bureau of energy efficiency of ministry of power para, star rating kam banai loi she.

Lung - Oh! Jiman stars, gas chola komti aro tate para, bishi bacha bole pare.

Sanika - Hoi enika aseLunglung. Energy chola ke kiman komti hobo, tate, greenhouse gas u - la bi namai dibo. Toh... etea tu, amar khan kinea somoi te, star rated samaan khan kini bole sesta kuri bole lage. (R) etu, Bureau of energy efficiency tu hoile, energy conservation Act 2001 para bana u - lai di she. Etu Act para ki lage koile, energy bishi chola khan, energy chola laga nium khan, noutun buildings khan, energy conservation building code ke mani bole aro energy performance standards aro energy consumption labels khan dikha bole, etu Act para lage.

Lung - Aaa... aunty, ami buji pai she. Ami green buildings khan upor pu - ri she. Etu khan amount kom te conventional source of energy cholai aro, paani gorom kuri bole, electricity aro alak alak nishina khan te , non conventional sources upor te bishi depend kure.

Sanika - Hoi , hoi, a - sol ke, amar khan ghor ujala kuri bo nimite, gham aro hawa parea tak bishi ahi bo nimite ghor tu bana bo lage.

Lung - Toh, amar khan lamps aro fans - pangkha nimite, electricity chola bole nalage!

Father - Toh! kherki khan khuli bi koi thake nah ami!

Sanika - Sabi ... ekdom chola bole parea laga technology ba, production laga, ba methods parea khan cholai she koile, energy noksan khan kom

kuri bole pare. Enika para, energy efficiency - pai thaki bole tu, amar khan dikhi pabo.

Father - Hoi, hosa ase. Automobile industry khan te bi, noutun technology sai sa ase. Mane - test kuri ase. Etu kile ase koile, amar khan , mati niche te chola bole pa mane - fossil fuels, diesel aro petrol nishina khan upor te, amar khan depend nakuri bole nimate.

Sanika - Umhu... international energy agency hisap te, buildings, industrial processes aro transportation khan te, energy efficiency ke akobi bhal kuri di she koile, 2050 te, prithibi te energy lagea one third te namai di bo aro, global green house gases khan ke bi control kuri bole pari bo koi.

Father - Umeed kuri bo! pari bo nimate.

Sanika - Paribo! kile napari bo, koa hisap te, energy efficiency aro renewable energy duijon tu, sustainable energy policy laga twin pillars ase koi, aro sustainable energy te ekdom u - cha dorkar te ase. Bishi bhak desh khan te, energy efficiency tu, national security benefit thakea bi dikhi pai, kile mane, dusra desh khan para, energy loa level ke kom hobole dae, aro domestic energy resources namea laga rate bi aste hobole dibo pare.

Lung - Aunty, ami khan bi nah! etu energy crisis upor ke ekdom dagor kotha te lobole lage aro , energy efficiency upor kam kuri bole lage. Hosa bi! ami aji apunar logot para, bishi jankari huni pai she. Aunty khushi pai she dae! apunar homoi dea nimate.

Sanika - (**laughs & says**) apunar baba para mokos bhal ase koa tu hosa ase. kintu, khali mokos he nahoi , kotha bi dagor manu khan nishina koi toh! ami bi khushi pai she dae Lunglung. Etea, ami cha mati bo.

Father - Achha thik ase. hoilebi, ami khan break lobole lagi bo, nahoile tu, cha thanda hoi jabo aro ako gorom kuri bole fuel ako khai dibo.

(all laughs)

Lung - (**laughing**) Hoi baba! apunar thik koi she.

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