**HDP Output:**

**Optimum topic number for Dataset-1: India .csv: 12**

**GoB Initiatives for Vaccination**

{5: [('government', 0.007180398795753717),

('supply', 0.006993293296545744),

('million', 0.006174707785248756),

('people', 0.006151319947093725),

('pandemic', 0.00603437889367342),

('make', 0.00575372064486146),

('chinese', 0.004911746829748154),

('population', 0.004864970687776804),

('would', 0.004818194545805454),

('vaccine\_diplomacy', 0.004537536296993494)],

**Including Refugee Citizen in Vaccination**

0: [('pandemic', 0.013669060543179512),

('access', 0.013235190883278847),

('refugee', 0.012367451563477516),

('government', 0.01063197385519743),

('include', 0.010198104195296764),

('develop', 0.009547299705445766),

('support', 0.008679560385644436),

('health', 0.008679560385644436),

('would', 0.008462625555694103),

('make', 0.008462625555694103)],

**Vaccine Import**

3: [('get', 0.03385024890303612),

('trial', 0.02031315676867962),

('due', 0.01655285432934761),

('potential\_vaccine', 0.01580079458653927),

('effective', 0.013544611632823944),

('well', 0.013544611632823944),

('vaccine\_diplomacy', 0.013544611632823944),

('source', 0.013544611632823944),

('government', 0.012040490284562111),

('contact', 0.011288429610431194)],

**Partnership to Recover from COVID**

6: [('partnership', 0.03391597419977188),

('sustainable\_development', 0.027982162311673164),

('agenda', 0.022896038368344307),

('effort', 0.022896038368344307),

('must', 0.021200664341449738),

('goal', 0.01865760050714016),

('need', 0.01780991442501545),

('group', 0.01696222648024559),

('recovery', 0.012723789550364017),

('covid\_pandemic', 0.012723789550364017)],

**Bangladesh Foreign Policy: India-BD Relationship**

4: [('dhaka', 0.019808046519756317),

('agreement', 0.013208507560193539),

('nepal', 0.013208507560193539),

('sign', 0.013208507560193539),

('indian', 0.013208507560193539),

('bangladeshs', 0.011322924867272377),

('government', 0.011322924867272377),

('visit', 0.010380133055150509),

('momen', 0.010380133055150509),

('million', 0.010380133055150509)],

**Vaccine Procurement: Vaccine Governance**

1: [('intellectual\_property', 0.043334051966667175),

('right', 0.033857692033052444),

('make', 0.024381330236792564),

('production', 0.023027563467621803),

('add', 0.021673796698451042),

('wto', 0.02032002992928028),

('manufacturing', 0.01896626502275467),

('support', 0.01896626502275467),

('manufacture', 0.01896626502275467),

('need', 0.017612498253583908)],

**Financial Donors for Vaccine**

9: [('eib', 0.037323128432035446),

('support', 0.02903216890990734),

('people', 0.016595734283328056),

('luxembourg', 0.016595734283328056),

('development', 0.013832081109285355),

('european\_union', 0.012450254522264004),

('partnership', 0.011068428866565228),

('project', 0.011068428866565228),

('operation', 0.011068428866565228),

('effective', 0.009686602279543877)],

**Vaccine Scarcity and Mitigation Response**

8: [('emphasize', 0.03149019554257393),

('call', 0.028177181258797646),

('must', 0.024864166975021362),

('per\_cent', 0.023207660764455795),

('crisis', 0.018238140270113945),

('point', 0.018238140270113945),

('note', 0.018238140270113945),

('united\_nation', 0.016581634059548378),

('economic', 0.016581634059548378),

('capacity', 0.014925126917660236)],

**Bangladesh Foreign Policy: Russia-BD Relationship**

2: [('russia', 0.059283919632434845),

('sputnik', 0.033136941492557526),

('rich\_countrie', 0.027907544746994972),

('even', 0.02442128024995327),

('production', 0.020935017615556717),

('approve', 0.019191885367035866),

('central\_asia', 0.019191885367035866),

('hilsa', 0.019191885367035866),

('require', 0.017448753118515015),

('patent', 0.015705620869994164)],

**Vaccine Governance**

7: [('people', 0.042200855910778046),

('access', 0.033766306936740875),

('action', 0.028143275529146194),

('international', 0.028143275529146194),

('patent', 0.025331759825348854),

('continue', 0.025331759825348854),

('wto', 0.025331759825348854),

('legal', 0.022520244121551514),

('live', 0.019708728417754173),

('obligation', 0.019708728417754173)],

**Vaccine Rollout**

11: [('people', 0.0520634688436985),

('report', 0.04339344799518585),

('access', 0.0347234271466732),

('per\_cent', 0.0347234271466732),

('vaccination\_rate', 0.02605341002345085),

('rahman', 0.02605341002345085),

('health\_system', 0.021718399599194527),

('nigeria', 0.017383389174938202),

('poor', 0.017383389174938202),

('language', 0.017383389174938202)],

**Vaccine Rollout**

10: [('per\_cent', 0.030871175229549408),

('mask', 0.030871175229549408),

('study', 0.025734540075063705),

('accord', 0.025734540075063705),

('point', 0.025734540075063705),

('week', 0.025734540075063705),

('infection', 0.025734540075063705),

('people', 0.025734540075063705),

('rate', 0.025734540075063705),

('observe', 0.020597906783223152)]}

**Optimum topic number for Dataset 2 - Mongolia.csv : 59**

**Mongolia’s Diversified Pool of Vaccines**

{1: [('people', 0.018757876008749008),

('provide', 0.016882462427020073),

('say', 0.016132298856973648),

('united\_state', 0.013506720773875713),

('new', 0.012381472624838352),

('first', 0.01200639083981514),

('population', 0.011631309054791927),

('pandemic', 0.011631309054791927),

('help', 0.011631309054791927),

('global', 0.01125622633844614)],

**Mongolia’s Foreign Policy: Russia**

2: [('russia', 0.0606674924492836),

('prime\_minister', 0.05200318619608879),

('mongolian', 0.043338876217603683),

('mongolias', 0.034674566239118576),

('state', 0.031208844855427742),

('ambassador', 0.0294759813696146),

('supply', 0.024277396500110626),

('foreign', 0.022544534876942635),

('oyun\_erdene', 0.022544534876942635),

('border', 0.020811673253774643)],

**Mongolia’s Foreign Policy and Vaccine Diplomacy: China**

5: [('chinese', 0.07040241360664368),

('cooperation', 0.045561812818050385),

('provide', 0.041421711444854736),

('pandemic', 0.03935166075825691),

('say', 0.026931358501315117),

('development', 0.026931358501315117),

('exchange', 0.024861307814717293),

('health', 0.024861307814717293),

('beijing', 0.02279125712811947),

('meeting', 0.02279125712811947)],

**Mongolia as part of Global Health Initiatives**

12: [('adb', 0.07564131915569305),

('project', 0.06443934142589569),

('adbs', 0.0448358952999115),

('access', 0.04203540086746216),

('apvax', 0.036434415727853775),

('facility', 0.030833428725600243),

('finance', 0.030833428725600243),

('provide', 0.030833428725600243),

('asia', 0.030833428725600243),

('pacific', 0.02803293615579605)],

**Vaccine Procurement and Rollout:**

32: [('april', 0.057841405272483826),

('minister', 0.051040537655353546),

('people', 0.03403835743665695),

('verocell\_vaccine', 0.03403835743665695),

('via', 0.030637923628091812),

('astrazeneca', 0.030637923628091812),

('assistance', 0.027237487956881523),

('flight', 0.027237487956881523),

('sinopharm', 0.027237487956881523),

('covid\_vaccine', 0.023837052285671234)],

**Mongolia’s Foreign Policy and Vaccine Diplomacy: Russia**

54: [('sputnik\_vaccine', 0.12182869762182236),

('sputnik', 0.060939721763134),

('organization', 0.040643393993377686),

('russian', 0.040643393993377686),

('approve', 0.040643393993377686),

('world', 0.035569313913583755),

('state', 0.035569313913583755),

('russia', 0.035569313913583755),

('develop', 0.030495231971144676),

('meeting', 0.030495231971144676)],

**Vaccine Procurement and Rollout:**

47: [('project', 0.08697305619716644),

('hospital', 0.070675790309906),

('equipment', 0.06524337083101273),

('health', 0.06524337083101273),

('world\_bank', 0.06524337083101273),

('response', 0.048946112394332886),

('capacity', 0.048946112394332886),

('facility', 0.04351368919014931),

('emergency', 0.03808126971125603),

('financing', 0.03808126971125603)],

**People Centric Vaccine Rollout**

6: [('third\_dose', 0.07694582641124725),

('citizen', 0.05328838527202606),

('vaccinate', 0.041459664702415466),

('involve', 0.03554530441761017),

('administer', 0.02963094413280487),

('coronavirus', 0.02963094413280487),

('population', 0.02963094413280487),

('coronavirus\_vaccine', 0.02963094413280487),

('year', 0.023716585710644722),

('develop', 0.023716585710644722)],

**Vaccine Procurement and Rollout:**

50: [('developing\_member', 0.0948483794927597),

('billion', 0.07761888206005096),

('covax', 0.07761888206005096),

('deliver', 0.06038938835263252),

('distribution', 0.06038938835263252),

('supply', 0.06038938835263252),

('gavi', 0.05177463963627815),

('effort', 0.04315989091992378),

('partner', 0.04315989091992378),

('available', 0.04315989091992378)],

**Mongolia as part of Global Health Initiatives**

38: [('covax\_facility', 0.13332699239253998),

('covid\_vaccine', 0.08574419468641281),

('unicef', 0.07622763514518738),

('global', 0.07622763514518738),

('safe', 0.047677960246801376),

('march', 0.047677960246801376),

('gavi', 0.047677960246801376),

('organization', 0.047677960246801376),

('representative', 0.03816140070557594),

('immunization', 0.02864484116435051)],

**Vaccine Procurement and Rollout:**

55: [('pfizer', 0.12121517956256866),

('june', 0.09093661606311798),

('arrive', 0.08084376156330109),

('unicef', 0.07075090706348419),

('sign', 0.060658056288957596),

('batch', 0.0505652017891407),

('agreement', 0.0505652017891407),

('second', 0.04047234728932381),

('grant', 0.030379490926861763),

('capacity', 0.030379490926861763)],

**People Centric Vaccine Rollout**

0: [('development', 0.11628717184066772),

('mongolian', 0.05820167437195778),

('mongolias', 0.04658457264304161),

('new', 0.04658457264304161),

('neighbor', 0.04658457264304161),

('president', 0.04658457264304161),

('policy', 0.04658457264304161),

('people', 0.03496747091412544),

('state', 0.03496747091412544),

('benefit', 0.03496747091412544)],

**Vaccine Economy**

7: [('usd\_million', 0.24694405496120453),

('loan', 0.09414668381214142),

('fund', 0.07063940167427063),

('assistance', 0.07063940167427063),

('already', 0.05888575688004494),

('equipment', 0.05888575688004494),

('international', 0.05888575688004494),

('total', 0.03537846729159355),

('measure', 0.02362482249736786),

('mongolias', 0.02362482249736786)],

**Vaccine Economy**

13: [('economic', 0.16466854512691498),

('policy', 0.1176539734005928),

('poverty', 0.1176539734005928),

('per\_cent', 0.09414668381214142),

('plan', 0.07063940167427063),

('sector', 0.05888575688004494),

('medium', 0.05888575688004494),

('line', 0.047132112085819244),

('economy', 0.03537846729159355),

('comprehensive', 0.03537846729159355)],

**Vaccine Policy Meeting**

49: [('ambassador', 0.12345831096172333),

('minister', 0.08645781874656677),

('finance', 0.07412432134151459),

('mechanism', 0.07412432134151459),

('meet', 0.0617908239364624),

('covid\_pandemic', 0.0617908239364624),

('hold', 0.04945732653141022),

('meeting', 0.04945732653141022),

('express', 0.04945732653141022),

('develop', 0.03712382912635803)],

**Vaccine Rollout**

20: [('today', 0.09213985502719879),

('astrazeneca', 0.07899579405784607),

('sinopharm', 0.06585173308849335),

('emergency', 0.06585173308849335),

('february', 0.05270767956972122),

('worker', 0.05270767956972122),

('press', 0.05270767956972122),

('covid\_vaccine', 0.05270767956972122),

('first\_dose', 0.05270767956972122),

('second', 0.0395636148750782)],

**Vaccine Administration**

28: [('children\_age', 0.1363498717546463),

('year', 0.10608353465795517),

('cabinet', 0.0909503623843193),

('june', 0.07581719011068344),

('start', 0.07581719011068344),

('old', 0.060684021562337875),

('administer', 0.04555084556341171),

('lockdown', 0.04555084556341171),

('thousand', 0.04555084556341171),

('today', 0.04555084556341171)],

**COVID-19 Situation**

3: [('people', 0.09839554876089096),

('case', 0.09839554876089096),

('report', 0.08202357590198517),

('percent', 0.08202357590198517),

('death', 0.06565160304307938),

('today', 0.06565160304307938),

('currently', 0.03290766105055809),

('hospital', 0.03290766105055809),

('booster', 0.03290766105055809),

('infection', 0.03290766105055809)],

**Vaccine Diplomacy Context - Russia**

9: [('minister', 0.14283166825771332),

('healthcare', 0.08933666348457336),

('russian', 0.07150499522686005),

('side', 0.07150499522686005),

('child', 0.07150499522686005),

('local', 0.05367332324385643),

('inform', 0.05367332324385643),

('coronavirus\_vaccine', 0.03584165498614311),

('preparedness', 0.03584165498614311),

('rapid', 0.03584165498614311)],

**Vaccine Rollout**

14: [('day', 0.11539938300848007),

('lockdown', 0.09619815647602081),

('health', 0.07699692994356155),

('decision', 0.0577956959605217),

('rollout', 0.03859446942806244),

('due', 0.03859446942806244),

('ministry', 0.03859446942806244),

('view', 0.03859446942806244),

('already', 0.03859446942806244),

('coronavirus', 0.03859446942806244)],

**Vaccine Diplomacy Context - India**

58: [('india', 0.24977312982082367),

('ambassador', 0.13634301722049713),

('deputy\_prime', 0.0909709632396698),

('supply', 0.0909709632396698),

('today', 0.06828493624925613),

('minister', 0.04559890925884247),

('express', 0.04559890925884247),

('soon', 0.04559890925884247),

('capacity', 0.02291288413107395),

('april', 0.02291288413107395)],

**Vaccine Procurement**

11: [('pandemic', 0.22480039298534393),

('import', 0.14995010197162628),

('overcome', 0.07509979605674744),

('develop', 0.07509979605674744),

('sector', 0.07509979605674744),

('transport', 0.05014969781041145),

('comprehensive', 0.05014969781041145),

('need', 0.05014969781041145),

('good', 0.05014969781041145),

('meet', 0.05014969781041145)],

**Vaccine Rollout**

18: [('group', 0.131565123796463),

('program', 0.07904411107301712),

('million', 0.07904411107301712),

('covid\_vaccine', 0.07904411107301712),

('available', 0.05278361216187477),

('cabinet', 0.05278361216187477),

('view', 0.05278361216187477),

('quarter', 0.05278361216187477),

('global', 0.05278361216187477),

('organization', 0.05278361216187477)],

**Vaccine Policy Meeting**

30: [('ambassador', 0.15782563388347626),

('infection', 0.131565123796463),

('minister', 0.10530462116003036),

('equipment', 0.07904411107301712),

('health', 0.05278361216187477),

('sector', 0.05278361216187477),

('involve', 0.026523107662796974),

('million\_dose', 0.026523107662796974),

('would', 0.026523107662796974),

('express', 0.026523107662796974)],

**Vaccine Policy Meeting**

33: [('president', 0.36305922269821167),

('letter', 0.09099152684211731),

('company', 0.09099152684211731),

('express', 0.09099152684211731),

('coronavirus\_vaccine', 0.06076178699731827),

('state', 0.06076178699731827),

('interest', 0.03053204156458378),

('gratitude', 0.03053204156458378),

('request', 0.03053204156458378),

('protect', 0.03053204156458378)],

**Vaccine Rollout**

35: [('astrazeneca', 0.22554698586463928),

('half', 0.09684684872627258),

('first', 0.09684684872627258),

('start', 0.06467181444168091),

('population', 0.06467181444168091),

('plan', 0.03249678388237953),

('national', 0.03249678388237953),

('part', 0.03249678388237953),

('march', 0.03249678388237953),

('june', 0.03249678388237953)],

**Vaccine Rollout**

19: [('start', 0.13789546489715576),

('give', 0.13789546489715576),

('citizen', 0.10350756347179413),

('without', 0.10350756347179413),

('currently', 0.10350756347179413),

('thousand\_dose', 0.06911966949701309),

('shot', 0.034731775522232056),

('make', 0.034731775522232056),

('level', 0.034731775522232056),

('vaccinate', 0.034731775522232056)],

**Vaccine Procurement**

26: [('become', 0.20667125284671783),

('thousand\_dose', 0.20667125284671783),

('possible', 0.10350756347179413),

('minister', 0.10350756347179413),

('deputy\_prime', 0.06911966949701309),

('supply', 0.06911966949701309),

('transport', 0.034731775522232056),

('total', 0.034731775522232056),

('get', 0.034731775522232056),

('population', 0.034731775522232056)],

**Vaccine Diplomacy Context - India**

45: [('bring', 0.10350756347179413),

('february', 0.10350756347179413),

('cabinet', 0.06911966949701309),

('talk', 0.06911966949701309),

('astrazeneca', 0.06911966949701309),

('take', 0.06911966949701309),

('meeting', 0.06911966949701309),

('india', 0.06911966949701309),

('access', 0.034731775522232056),

('prime\_minister', 0.034731775522232056)],

**Vaccine Policy Meeting**

4: [('developing\_countrie', 0.21403135359287262),

('foreign', 0.07158119976520538),

('approve', 0.07158119976520538),

('include', 0.07158119976520538),

('export', 0.07158119976520538),

('study', 0.035968661308288574),

('access', 0.035968661308288574),

('continue', 0.035968661308288574),

('company', 0.035968661308288574),

('emergency', 0.035968661308288574)],

**Humanitarian Organization Vaccine Initiative**

16: [('economic', 0.11115214228630066),

('bank', 0.07422451674938202),

('world', 0.07422451674938202),

('world\_bank', 0.07422451674938202),

('three', 0.037296898663043976),

('loan', 0.037296898663043976),

('mongolias', 0.037296898663043976),

('framework', 0.037296898663043976),

('recovery', 0.037296898663043976),

('prime\_minister', 0.037296898663043976)],

**Vaccine Procurement**

10: [('transport', 0.13041594624519348),

('company', 0.13041594624519348),

('deliver', 0.08708839118480682),

('express', 0.08708839118480682),

('national', 0.04376083239912987),

('delivery', 0.04376083239912987),

('mongolian', 0.04376083239912987),

('ensure', 0.04376083239912987),

('march', 0.04376083239912987),

('import', 0.04376083239912987)],

**Vaccine Procurement**

15: [('financing', 0.09535104036331177),

('transport', 0.09535104036331177),

('million', 0.09535104036331177),

('week', 0.04791271314024925),

('december', 0.04791271314024925),

('equipment', 0.04791271314024925),

('border', 0.04791271314024925),

('overcome', 0.04791271314024925),

('large', 0.04791271314024925),

('grant', 0.04791271314024925)],

**Humanitarian Organization Vaccine Initiative**

8: [('thousand', 0.1332891285419464),

('approve', 0.1332891285419464),

('citizen', 0.06697613000869751),

('would', 0.06697613000869751),

('countrys', 0.06697613000869751),

('coronavirus', 0.06697613000869751),

('ulaanbaatar\_montsame', 0.06697613000869751),

('deputy\_prime', 0.06697613000869751),

('report', 0.06697613000869751),

('world\_health', 0.06697613000869751)],

**Vaccine Diplomacy Context - China**

42: [('unit', 0.23012232780456543),

('today', 0.15366972982883453),

('vaccinate', 0.15366972982883453),

('national', 0.07721712440252304),

('establish', 0.07721712440252304),

('representative', 0.07721712440252304),

('low', 0.0007645259611308575),

('note', 0.0007645259611308575),

('aim', 0.0007645259611308575),

('beijing', 0.0007645259611308575)],

**Vaccine Diplomacy Context - China**

40: [('reach', 0.1001984104514122),

('today', 0.1001984104514122),

('take', 0.1001984104514122),

('per', 0.1001984104514122),

('republic', 0.1001984104514122),

('line', 0.1001984104514122),

('agency', 0.1001984104514122),

('apvax', 0.0009920634329319),

('aim', 0.0009920634329319),

('third\_dose', 0.0009920634329319)],

**Vaccine Diplomacy Context - China**

21: [('beijing', 0.16611842811107635),

('early', 0.16611842811107635),

('international', 0.16611842811107635),

('able', 0.0016447368543595076),

('note', 0.0016447368543595076),

('aim', 0.0016447368543595076),

('apvax', 0.0016447368543595076),

('third\_dose', 0.0016447368543595076),

('already', 0.0016447368543595076),

('patient', 0.0016447368543595076)],

**Vaccine Diplomacy Context - China**

22: [('among', 0.16611842811107635),

('inform', 0.16611842811107635),

('shipment', 0.16611842811107635),

('able', 0.0016447368543595076),

('note', 0.0016447368543595076),

('aim', 0.0016447368543595076),

('beijing', 0.0016447368543595076),

('apvax', 0.0016447368543595076),

('third\_dose', 0.0016447368543595076),

('already', 0.0016447368543595076)],

**Vaccine Diplomacy Context - China**

23: [('company', 0.16611842811107635),

('issue', 0.16611842811107635),

('coronavirus\_vaccine', 0.16611842811107635),

('aim', 0.0016447368543595076),

('priority', 0.0016447368543595076),

('beijing', 0.0016447368543595076),

('apvax', 0.0016447368543595076),

('third\_dose', 0.0016447368543595076),

('already', 0.0016447368543595076),

('patient', 0.0016447368543595076)]}