

GeoDASH and Bangladesh NSDI

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SUPPORT FROM:



IMPLEMENTED BY:



**ICT
DIVISION**

OVERVIEW

GEODASH.GOV.BD



A GEOSPATIAL DATA SHARING PLATFORM FOR BANGLADESH

“The Bangladesh Geospatial Data Sharing Platform (GeoDASH) is a web-based spatial data infrastructure and GIS that empowers government, academia, private enterprise and the public to securely host, manage, share, visualize and analyze geospatial data”



TIMELINE OF KEY DEVELOPMENTS

- **February 2014:** GeoDASH roadmap published as an output of the GFDRR-supported Bangladesh Urban Earthquake Resilience Project
- **May 2014:** Platform beta launched and data sharing working group established of 11 key government agencies involved in the disaster risk management of Greater Dhaka
- **December 2015:** Handover of GeoDASH from GFDRR to the Bangladesh Computer Council (BCC), ICT Division, Government of Bangladesh
- **September 2016:** GeoDASH highlighted in “Digital World” Bangladesh, largest ICT event in Bangladesh
- **March 2018:** MoU signed between BCC and Survey of Bangladesh (SoB) under Ministry of Defence to build NSDI Portal based on GeoDASH



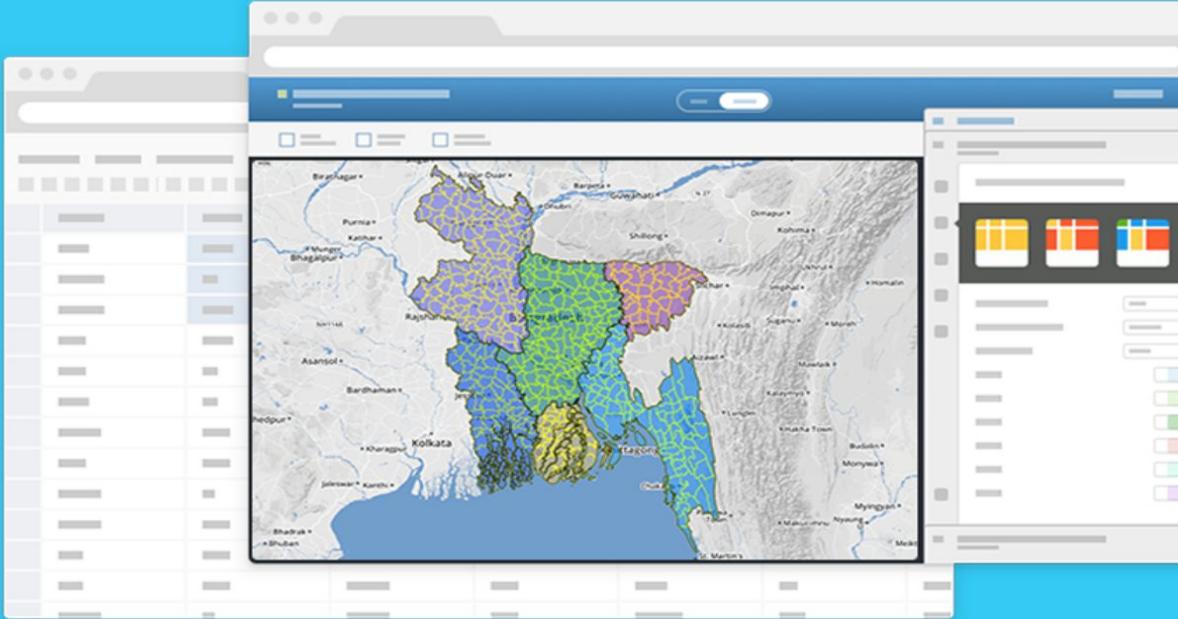
PLATFORM CAPABILITIES

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OPERATIONAL DESIGN:

 **GeoDASH** LAYERS ▾ MAPS ▾ DOCUMENTS ▾ ORGANIZATIONS ▾ NEWS ⋮ Search layer/map/doc ⋮    বাংলা



GEODASH.GOV.BD
A MAPPING PLATFORM TO CREATE
CUSTOM AND STYLISH MAPS
[Learn more](#)

352 Layers	17 Maps	47 Organizations	586 Users
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Key Features Added to GeoDASH: Admin Workspace

Admin Workspace

Layers Maps Documents User List Create User

User Approval Request		Approved	User Drafts	Denied Layers		
Serial No	Layer Title	Organization	Who Requested	Who Approved	Approve Date	Layer Edit
1	Administrative/ Political Boundary of Bangladesh	The World Bank	ariel	hamid	Nov 01 2016 18:50:33	<button>Edit</button>
2	Fiber Optics Line Nodes of Dhaka City	BCC (Bangladesh Computer Council)	hamid	hamid	Nov 01 2016 18:51:38	<button>Edit</button>
3	Boundary Data of DMA Zone 504, Banani, Dhaka	The World Bank	ariel	ahasan	Nov 01 2016 18:52:15	<button>Edit</button>
4	Fiber Optics Line Network of Dhaka City	BCC (Bangladesh Computer Council)	hamid	hamid	Nov 01 2016 18:54:03	<button>Edit</button>
5	BTCL-Fiber Optic Network Connected Unions	BCC (Bangladesh Computer Council)	hamid	hamid	Nov 01 2016 18:54:42	<button>Edit</button>
6	Fiber Optics Backbone Path by Summit Communications Ltd.	BCC (Bangladesh Computer Council)	hamid	hamid	Nov 01 2016 18:55:07	<button>Edit</button>



hamid

Upload Layers

Profile

Member-Workspace

Admin-Workspace

Create User

Recent Activity

Invite User

Help

Log out

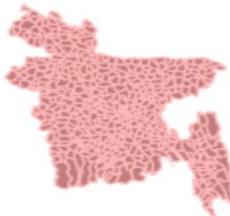
Key Features: Organizational Profile



Department Of Disaster Management (DDM)

Organization Profile Layers List User List Activity Question/Answer

< page 1 of 1 >



Status of Educa.....

Not provided

Education data was the part of analysis of Multi-Hazard Risk and Vulnerability Assessment, Modeling and Mapping (MRVAM) Assessment which was a subcomponent =project initiated under Emergency 2007 Cyclone Recovery and Res.....

Md.Bodruddoza  144  0 



Status of Educa.....

Not provided

Education data was the part of analysis of Multi-Hazard Risk and Vulnerability Assessment, Modeling and Mapping (MRVAM) Assessment which was a subcomponent =project initiated under Emergency 2007 Cyclone Recovery and Res.....

programmer.ddm  81  0 



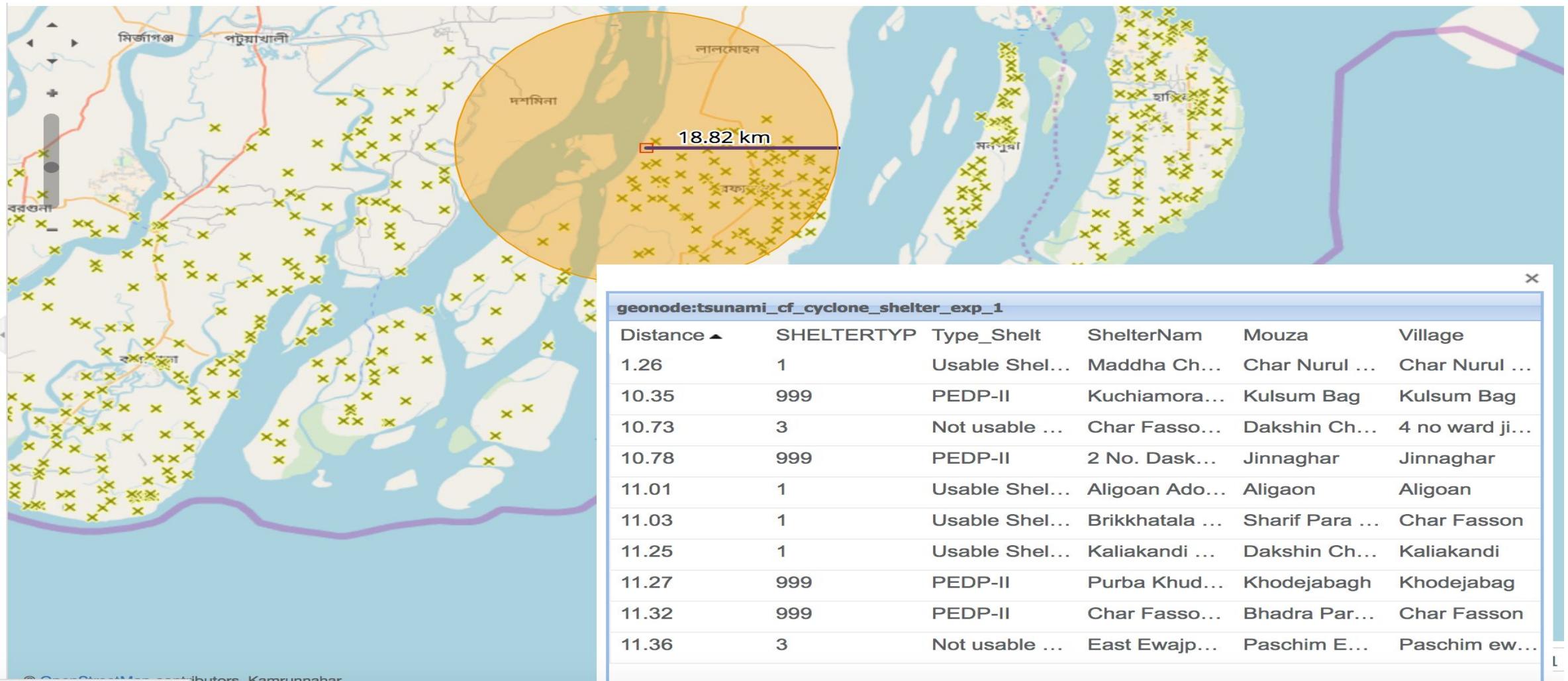
Storm Surge Inu.....

Not provided

Cyclone induced storm surge inundation depth map has been developed under Multi Hazard Risk and Vulnerability Assessment, Modeling and Mapping (MRVA) component by Department of Disaster Management (DDM) of project Emerge.....

netai  0  4  867

Key Features: Radius Search



Key Features

- User friendly UI
- CSV file format upload
- Upload Zipped file
- Standard, Facebook, Google+ login
- Send/Receive message for users
- User Dashboard for Docking favorite layers, maps, documents and organizations
- Wiki documentation and full user guide (geodash.gov.bd/wiki)



Major Changes in the Next Release April 2018

GEODASH.GOV.BD



Styling Simplified

Exposure & Risk
Data_Flood_Population_district

[Download Layer](#)

[Edit Layer](#)

**Layer Styles: Exposure & Risk
Data_Flood_Population_district**

Styles
Choose style: exposure_risk_da

+ Add - Remove Edit Duplicate

Rules
Untitled 1

+ Add - Remove Edit Duplicate

This layer is not currently used in any maps.

Create a map using this layer

Click the button below to generate a new map based on this layer.

[Create a Map](#)

OpenStreetMap contributors

The map displays a choropleth style where districts are shaded in various tones of green and yellow, representing different levels of exposure. The legend indicates that the 'exposure_risk_da' style is applied, and there is one rule named 'Untitled 1'. The map also shows state boundaries and major rivers.



Styling Simplified

The screenshot shows a map application interface with a styling dialog open over a map background.

Map Application Interface:

- Data layers:** A sidebar showing available data layers.
- Working Map: Untitled:** The current map view.
- Layers:** A list of layers, with one layer selected: `geonode:administrative_bo...`.
- Query:** A section for querying data, with a checked checkbox for "Query by current map extent".
- Attribute Grid:** A table showing attribute data for the selected layer.

Styling Dialog:

The styling dialog is titled `geonode:administrative_boundary_of_bangladesh_upazila_level_1 Properties`. It contains the following fields:

- Select Style:** A dropdown menu with "New" button.
- General:** Active tab.
- Display style:** Tab for styling.
- Classifier:** Tab for classifier settings.
- Labeling:** Tab for labeling.
- Visualization:** Tab for visualization.
- Style Name:** Input field for the style name.
- Type:** Input field set to "polygon".
- Save:** Button to save changes.
- Cancel:** Button to cancel changes.

Attribute Grid Data:

	ID 0	Iso	NAM	ID 1	NAM	ID 2	NAM	ID 3	NAM	ID 4	NAM	VAR	TYP	ENG
✓	r 19	BGD	Bangla...	1	Barisal	1	Barisal	1	Barisal	1	Agailjh...		Upazil...	Sub-di...
✓	r 19	BGD	Bangla...	1	Barisal	1	Barisal	1	Barisal	2	Babug...		Upazil...	Sub-di...
✓	r 19	BGD	Bangla...	1	Barisal	1	Barisal	1	Barisal	3	Baker...		Upazil...	Sub-di...
✓	r 19	BGD	Bangla...	1	Barisal	1	Barisal	1	Barisal	4	Banari...		Upazil...	Sub-di...
✓	r 19	BGD	Bangla...	1	Barisal	1	Barisal	1	Barisal	5	Barisal...		Upazil...	Sub-di...

Styling Simplified

geonode:administrative_boundary_of_bangladesh_upazila_level_1 Properties

– Select Style – New

General Display style Classifier Labeling Visualization

	Default Style	Selection Style
Fill Pattern	default	default
Fill Color	#ffffff	#ff00ff
Fill Transparency	25	60
Line Color	#000000	#000000
Line Width	1	1
Line Dash Type	solid	solid

Save Cancel

Styling Simplified

geonode:administrative_boundary_of_bangladesh_upazila_level_1 Properties

x

-- Select Style --



New

General

Display style

Classifier

Labeling

Visualization

By Unique

By Range

Select Attribute

Color Ramp

-- No Item Selected --



Remove All

Color

Alias

Value

No classifier available

Select All

No item

ADD

Save

Cancel

Styling Simplified

geonode:administrative_boundary_of_bangladesh_upazila_level_1 Properties

-- Select Style --

New

General Display style Classifier Labeling Visualization

Label From

-No Attribute S ▾

Label Styles

Font Times

Font Style Normal

Font Weight Normal

Color

Border Color

Size 10

Label Placement

Alignment Left

Offset left 0

Offset bottom 0

Rotation(degree) 0

Wrap Words

Save

Cancel

Styling Simplified

geonode:administrative_boundary_of_bangladesh_upazila_level_1 Properties

25c610cf-63a7-4041-9148-c3075653c781

New

General

Display style

Classifier

Labeling

Visualization

Visualization

Chart

Chart Type:

- Bar Chart
- ✓ Horizontal Bar Chart
- Stack Bar Chart
- Pie Chart

Chart Size Attribute:

Select All

ID_0

#B448DB



ID_1

#8F053C



ID_2

#B7A8CA



ID_3

#0F2C34



Save

Cancel

Data Cleaning

Please update layer metadata, missing some informations X

Map Attribute

Attributes

NAME_1	ID_2	NAME_2	ID_3	NAME_3	ID_4	NAME_4	VARNAME	TYPE_4	ENGTYPE	fid
Barisal	1	Barisal	1	Barisal	1	Agailjhara		Upazila Tha...	Sub-district	1
Barisal	1	Barisal	1	Barisal	2	Babuganj		Upazila Tha...	Sub-district	2
Barisal	1	Barisal	1	Barisal	3	Bakerganj		Upazila Tha...	Sub-district	3
Barisal	1	Barisal	1	Barisal	4	Banaripara		Upazila Tha...	Sub-district	4
Barisal	1	Barisal	1	Barisal	5	Barisal S.		Upazila Tha...	Sub-district	5
Barisal	1	Barisal	1	Barisal	6	Gaurnadi		Upazila Tha...	Sub-district	6
Barisal	1	Barisal	1	Barisal	7	Hizla		Upazila Tha...	Sub-district	7
Barisal	1	Barisal	1	Barisal	8	Mehendiganj		Upazila Tha...	Sub-district	8
Barisal	1	Barisal	1	Barisal	10	Wazirpur		Upazila Tha...	Sub-district	9
Barisal	1	Barisal	2	Jhalakati	11	Jhalakati S.		Upazila Tha...	Sub-district	10
Khulna	16	Khulna	41	Khulna	279	Kotwali	Khulna	Upazila Tha...	Sub-district	11
Barisal	1	Barisal	1	Barisal	9	Muladi		Upazila Tha...	Sub-district	12
Barisal	1	Barisal	2	Jhalakati	12	Kathalia		Upazila Tha...	Sub-district	13
Barisal	1	Barisal	2	Jhalakati	14	Rajapur		Upazila Tha...	Sub-district	14
Khulna	16	Khulna	41	Khulna	280	Koyra		Upazila Tha...	Sub-district	15

Items per page: 10000 | 25 of 463 items

Upload CSV to update information

No file chosen

Maps using this layer

List of maps using this layer:

[Bangladesh Upazilla Boundary](#)

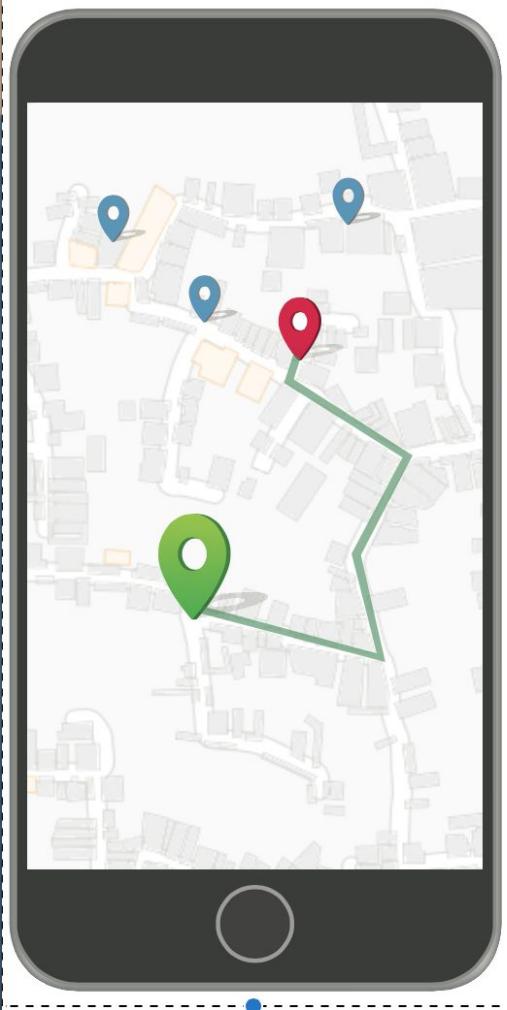
Reverse Geocoding



Name	street address	city	region	country	postal zip
Hoyt	P.O. Box 416, 4161 Clinique Ave	Bethel	Nova Scotia	Guernsey	33072-132
Abel	339-8412 Elefond Avenue	Buckingham	Western Australia	Bonaire, Sint Eustatius and Saba	HO66-225
Carter	P.O. Box 343, 9933 Integer St.	Pisa	Toscana	Suriname	70115
Guy	212-595 Portman Rd.	Yoon	AY	Sudan	60294
Wade	Ap #870-4848 Semper Avenue	Calor	LO	Indonesia	596
Garcia	482-6938 Amet Street	Torremolles	Queensland	Japan	48319
Jacob	Ap #4827-5494 Cras Rd.	San Rafael	SJ	Jamaica	238576
Hayes	P.O. Box 965, 3730 Sagittis Rd.	Zierikzee	ZI	Niue	17531-575
Ferris	872-9419 At, Av.	Xitman	British Columbia	Montenegro	8925
Stuart	803-9433 Sed Road	Ortonovo	U	Marshall Islands	358151
Ward	Ap #821-4542 Ullam Rd.	Melbourne	South Australia	Switzerland	25200
Ralph	6834 Feugiat Avenue	St. Thomas	Ots	Niue	266099
Desrcoll	Ap #690-2942 Morbi Rd.	Kozalin	Zachodniopomorskie	Croatia	38052
Ira	572-5674 Mertus Street	Hengelo	Ovenjssel	Indonesia	13101



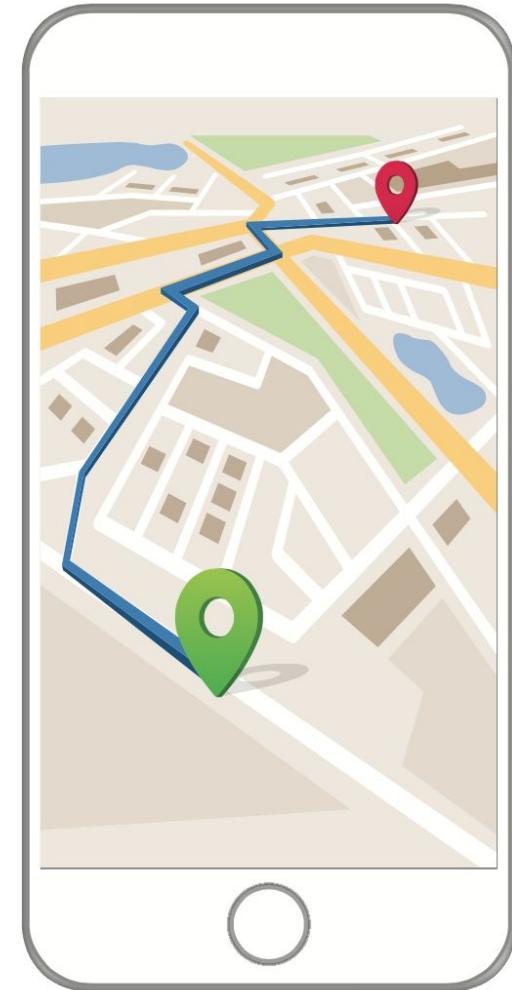
Mobile App



Nearest Point search

Point to point route

Nearest destination Route



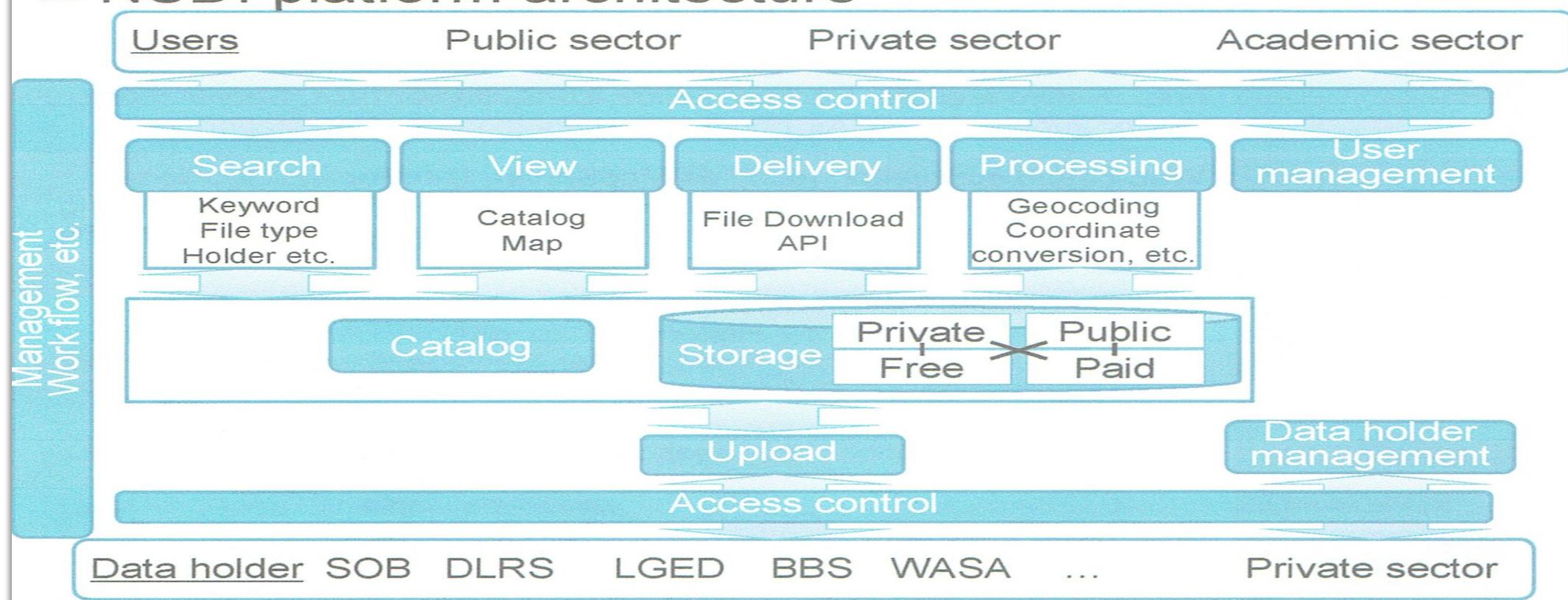


Bangladesh NSDI: Pilot Project



NSDI Architecture

■ NSDI platform architecture



Sources:



Project for Strengthen the Capacity on Advanced Mapping of SOB for Building Digital Bangladesh

Contributors Meeting #2 : Overview of NSDI Pilot Project

August 2017



Why GeoDASH Chosen for NSDI

- Basic design – NSDI powered by GeoDash
- The reasons for utilizing GeoDash are:
 - To well-designed geo-portal system established with support from WB,
 - To have operational experience to handle and publish various maps and made by public organizations,
 - To be effective in constructing NSDI prototype system.

Sources:

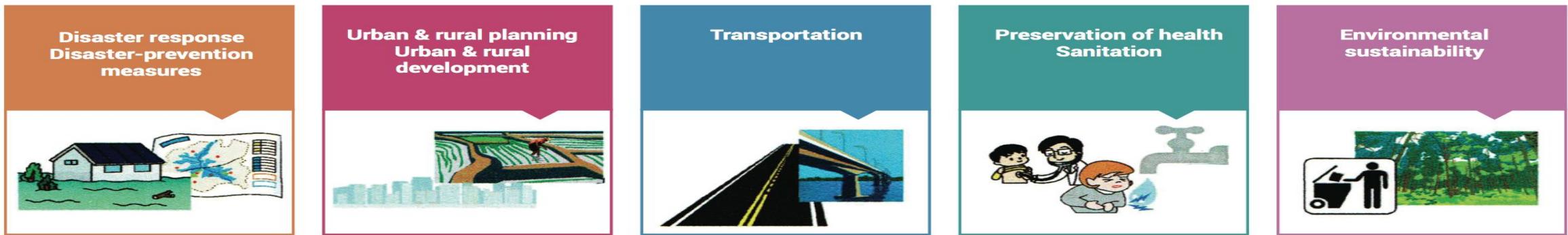


Project for Strengthen the Capacity on Advanced Mapping of SOB for Building Digital Bangladesh

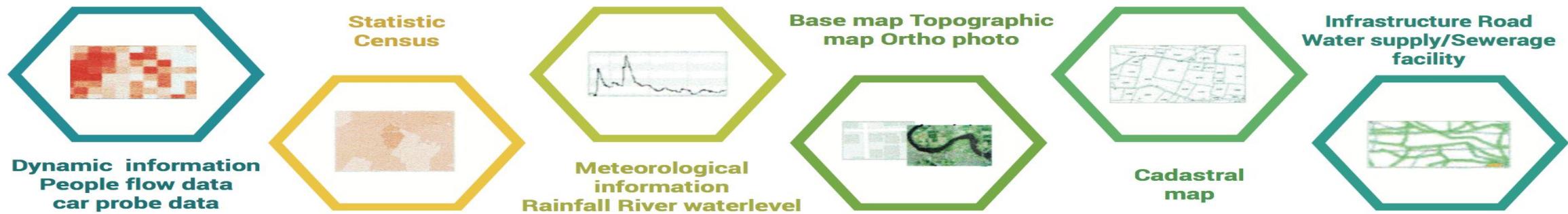
Contributors Meeting #2 : Overview of NSDI Pilot Project

August 2017

Objective of NSDI



NSDI



NEXT STEPS

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Future PLan for GeoDASH

1-year plan:

- Continue to improve the platform's utility and user-friendliness based off of feedback from key government stakeholders and working group members
- Provide technical guidance to our key stakeholders (3-5) web portal Spatial Data friendly with backend support from GeoDASH
- Conduct GeoNode developer workshop to train at least 15 programmer
- Total 1000 layer, 100 organizations and 1000 users

5-year plan:

- Institutionalize GeoDASH in all relevant Government of Bangladesh agencies
- Encourage greater openness of non-sensitive data to all and support broader open data policy reform
- Total of 5,000 layers, 200 organizations and 4,000 users

Bangladesh National Enterprise Architecture (BNEA)

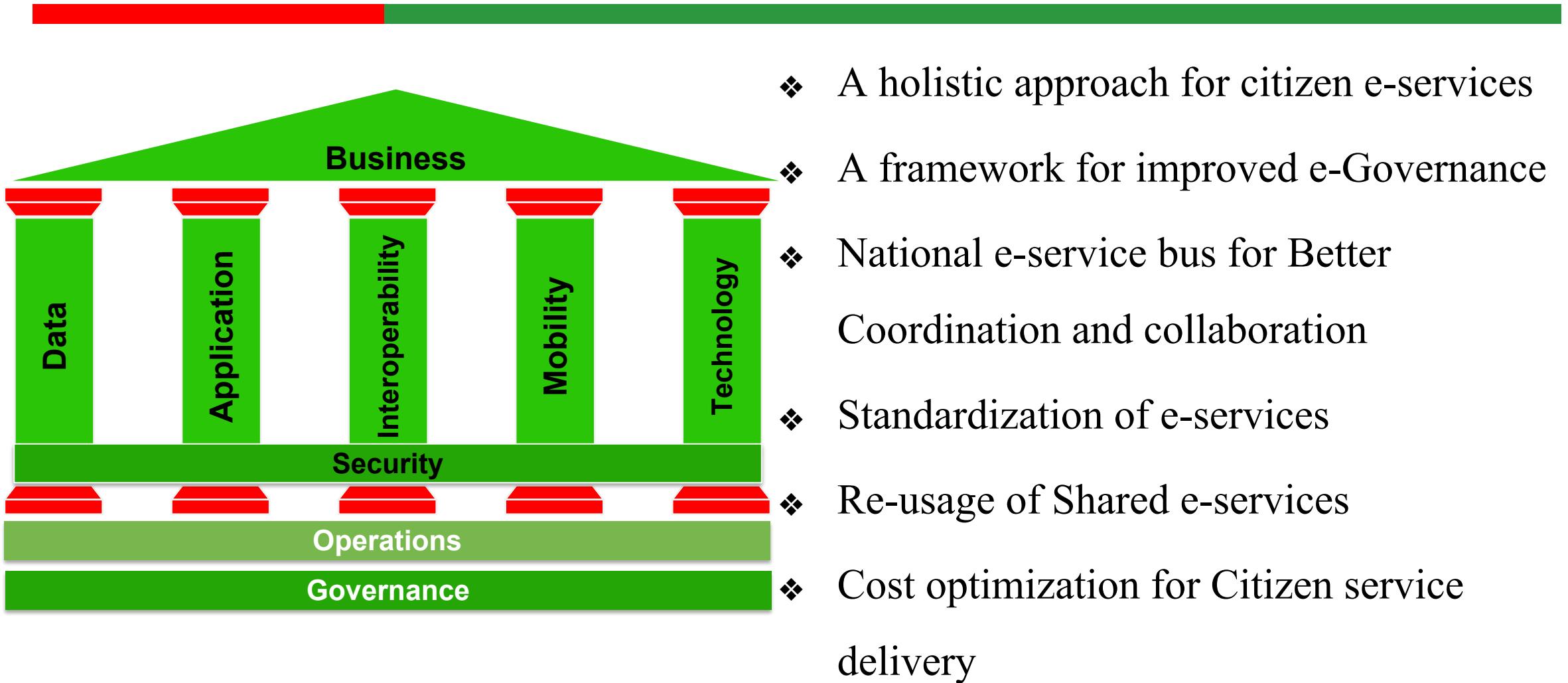
and GeoDASH Platform



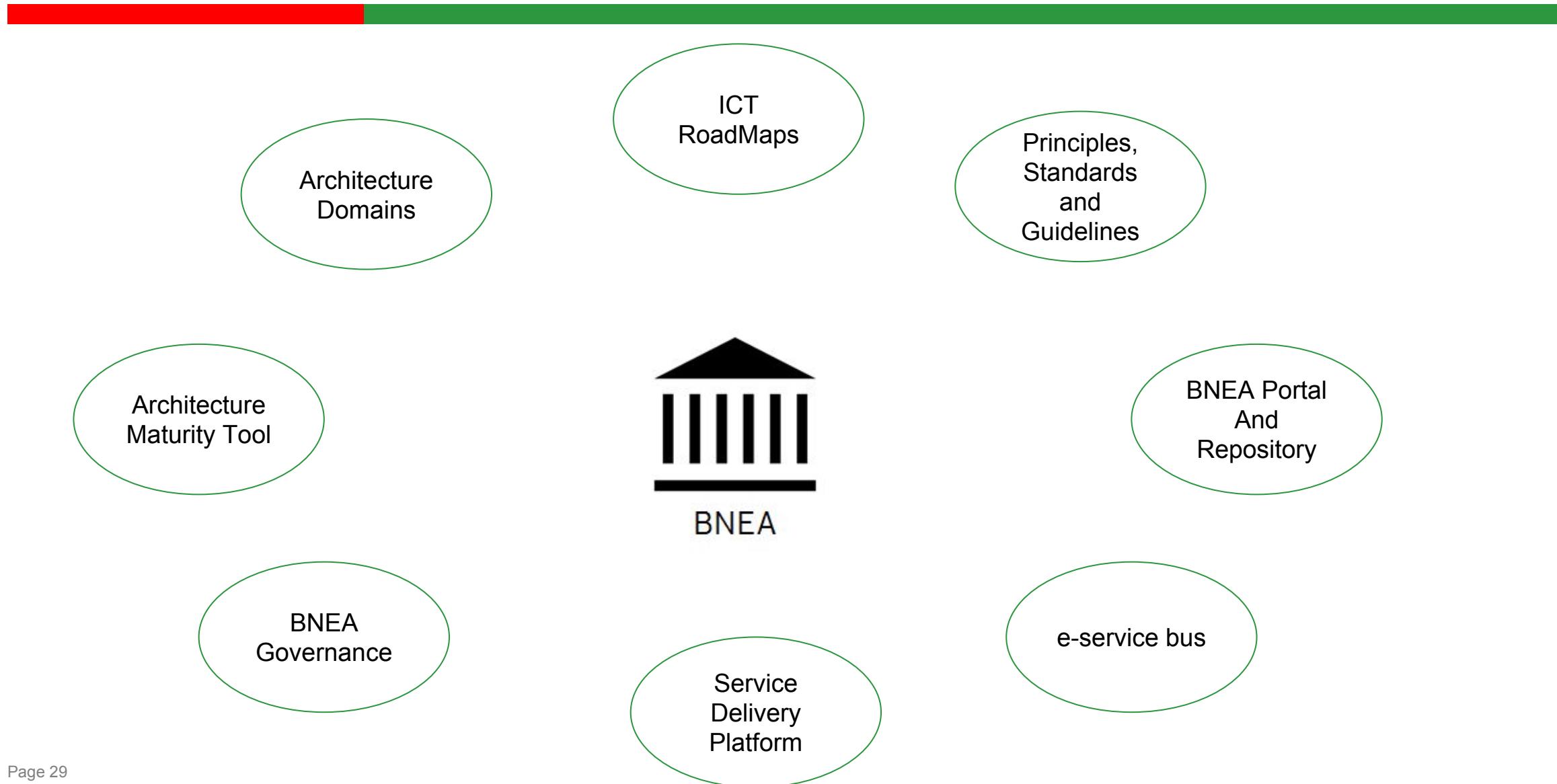
**ICT
DIVISION**

FUTURE IS HERE

Bangladesh National Enterprise Architecture

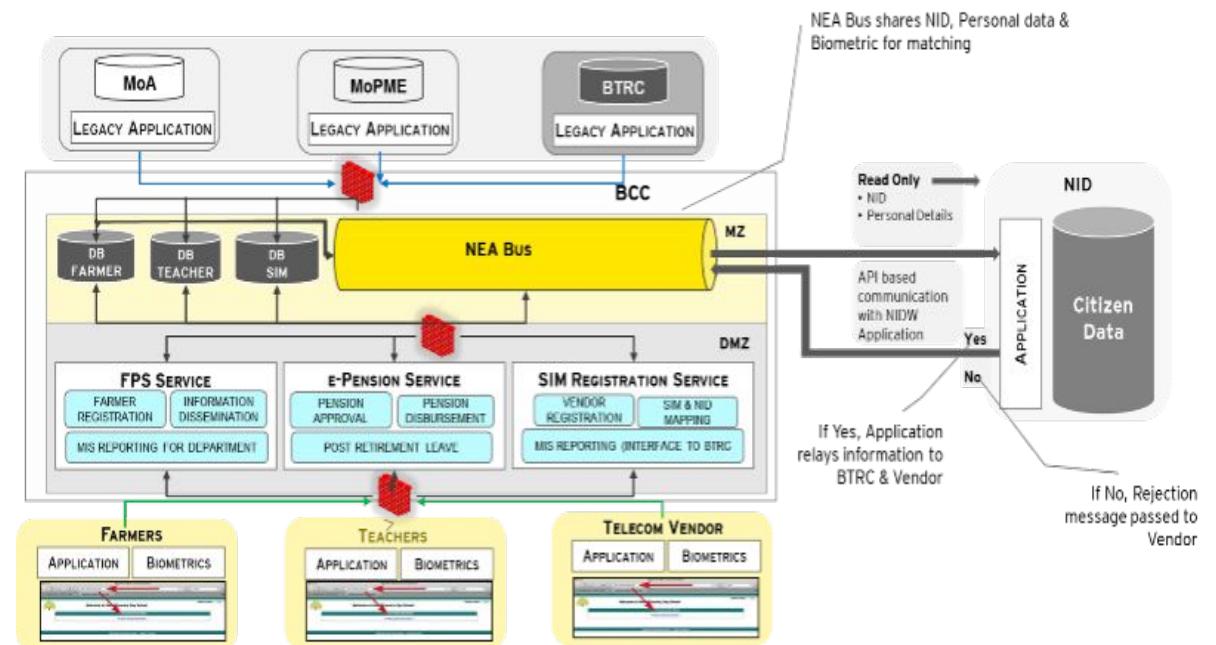


BNEA Framework

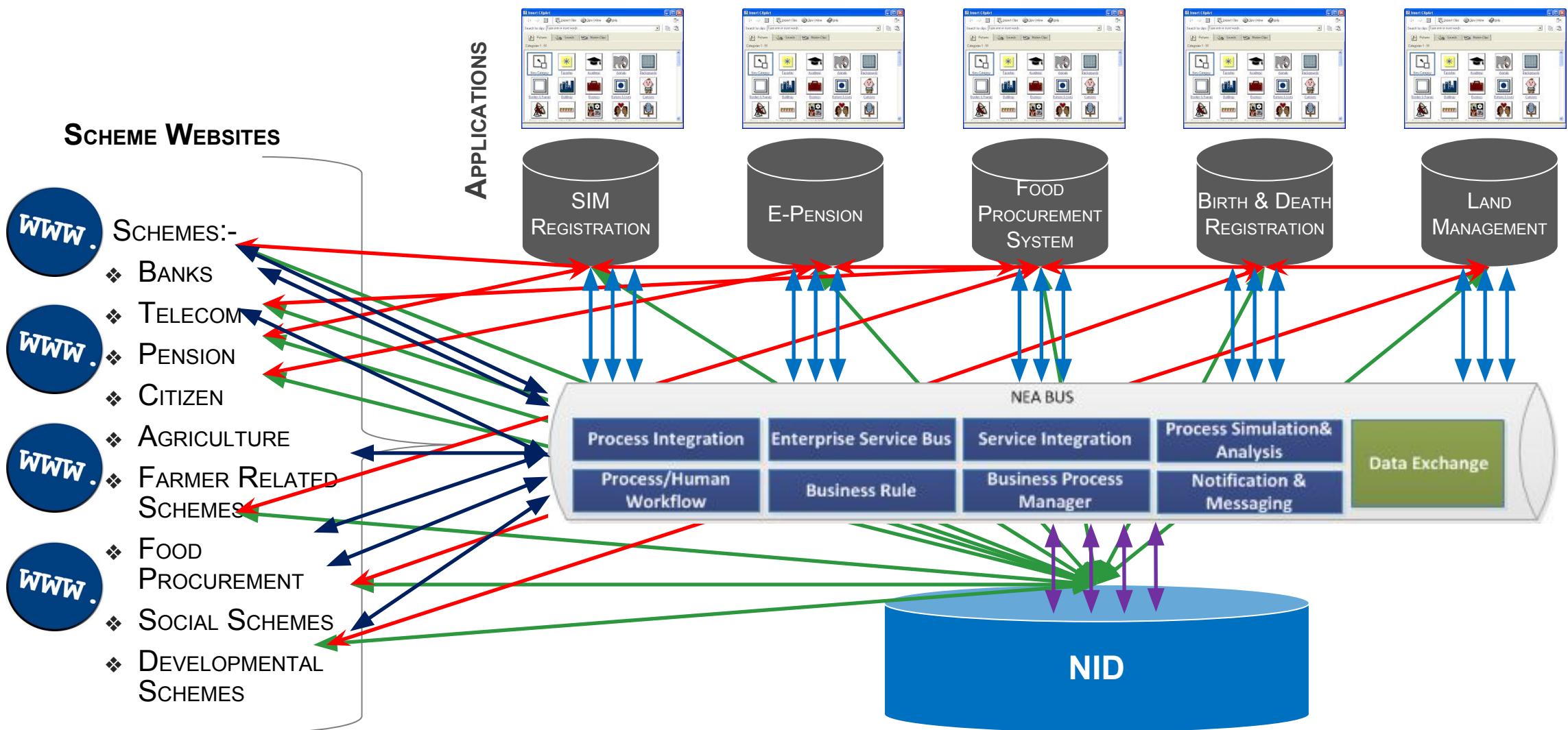


e-Service Bus is a critical component and key to ensure interoperability, availability and reusability of government online services

- ▶ A middleware platform to ensure seamless integration and exchange of information
- ▶ 6+ services are connected as of now
 - ▶ Pay fixation System
 - ▶ GeoDASH Platform
 - ▶ Alapon messenger app
 - ▶ Citizen authentication service
 - ▶ e-Recruitment System
 - ▶ e-pension service for primary school teacher
 - ▶ Food procurement from miller/farmer
- ▶ more services are in pipeline...

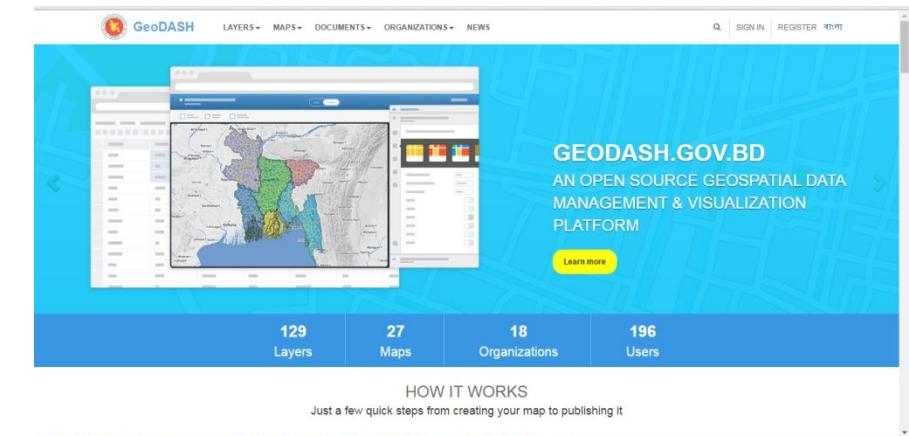


Process Simplification using NEA Service Bus



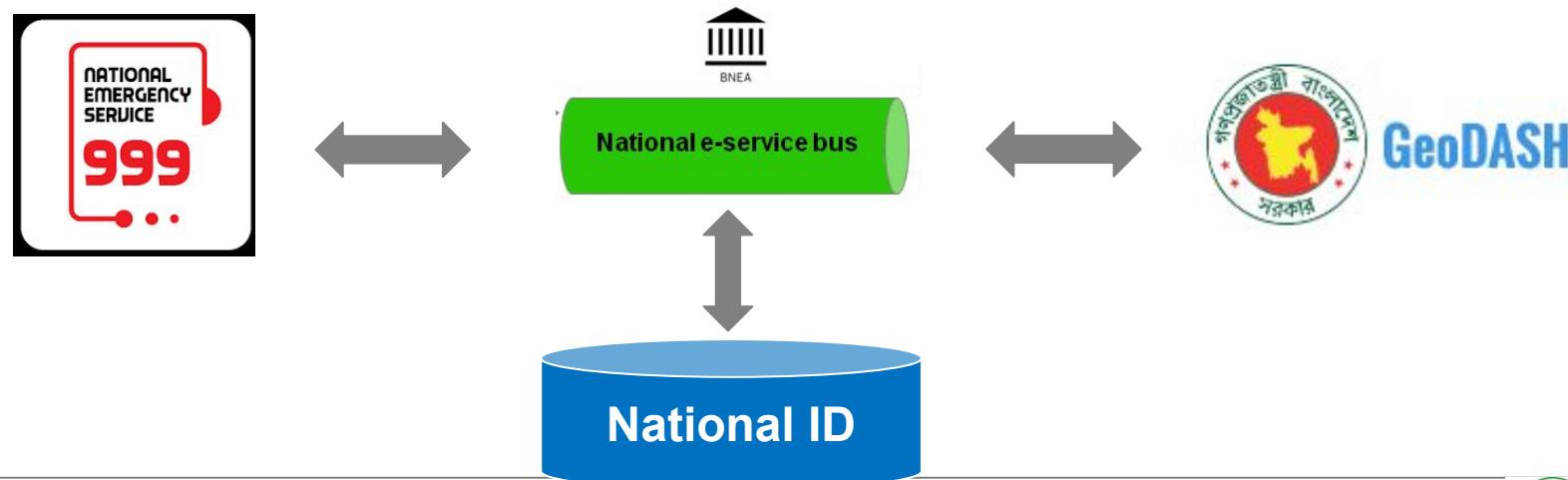
GeoDASH Platform Integration

- ❖ A unique Govt. Platform to share and collaborate geospatial data
 - ❖ Owned by BCC, developed by WB
 - ❖ Geospatial data management and visualization
 - ❖ Multiple layers of geospatial data and mixing of layers
 - ❖ GIS map publishing, point-to-point distance
- ❖ 2 options to interact –
 - ❖ GUI (Graphical User Interface) and
 - ❖ API (Application Programming Interface)
- ❖ GeoDASH API is integrated with National e-service bus!
 - ❖ GeoDASH consumer can utilize API to interact programmatically



Extension of GeoSpatial Data service

- Integration with National Emergency Service (999)
 - A Complex use case of National e-service bus, NID service, GeoDASH platform and 999 service
 - Victim's identity will be verified via e-service bus
 - Utilizing GeoDASH platform's plug-in/web control to embed map/layer in 3rd party web portal
 - Victim's GeoLocation will be displayed at agent's interface





Thank You