

Central Dissemination Project

***1.4.2014
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OUTLINE

- Introduction
- Current System
- Deficiency Of Current System
- Advantages Of Central Database
- Indicators Model For Central Dissemination
- Data Process Of Central Dissemination Database
- Tables of Project
- Web Application for Independence Statistical Indicators
- GYU Application and MEDAS Application

INTRODUCTION

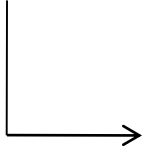
- Dissemination databases are the summary aggregated data repository which are created from institutional databases according to the information request
- Aggregated time series data created from TurkStat institutional databases.
- They are accessible from Web Page
- Dissemination databases are for end users but not for beginners
- Users takes data from database according to the given criterias. Reports are dynamically produced.

- While disseminating data on the web page, data **confidentiality** are considered. All data at the institutional database are not included at dissemination database
- TR, Nuts1 (12 region), Nuts2 (26 region), Nuts3(81 city),
- Town and Municipality level data is accessible through Institutional Database

CURRENT SITUATION

- A java application for selecting report parameters
- Sending parameters via URL to report server
- Oracle Reports Builder handles the requests

A Current Java Application



http://www.tuik.gov.tr/hayvancilikapp/hayvancilik_ing.zul

Livestock Statistics

- Number of animals and animal products
- Number of animals according to age groups
- Number of animals slaughtered, meat and hide

Year Selection	Table Selection
<< All >>	Bovine Animals
2010	Sheep and Goats
2009	Poultry
2008	Apiculture
2007	Sericulture
2006	Equines
2005	Pig
2004	Camel

Turkey SRE-1 SRE-2 SRE-3 Borough

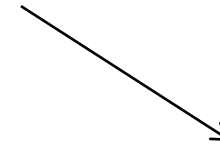
According to Years and Residential Districts According to Animal Types

Table format:

Information and remarks:

Note: Data on red meat, chicken meat and egg production have been published on web site through monthly news releases starting from January 2010.

Clean Screen Make Report



http://rapor.tuik.gov.tr/reports/rwservlet?hayvancilik...



... **Why** do we need to design a central database for dissemination?

Deficiency of Current System:

- For each application gathering the same data with different ways
- Different database designs
- Different application for each subject of statistics

Advantages of Central Database:

- Reduce actual reporting burden
- Administrative simplification
- Generic data
- Uniform report helps the web service development and administration in the future.

Indicators Model for Central Dissemination

- **Indicator:** Identifier information except time (year, month, quarter) and location (region).
- We assume that Each given statistic is an indicator.

Example:

Exchange ratio of unemployment rate for male population in Ankara on March,2000, is 0.3.

Indicators Model (Cont'd)

Data is composed of :

Time – Level – **indicator** - Value – Metadata

Examples of Population indicators

Population

Male population

Male - literate – population

Male - illiterate –population

Female - literate – population

Indicators Model (Cont'd)

Example :

For unemployment suppose that having 3 dimensions.

Gender : 2 codes,

Education : 10 codes,

Occupation : 300 codes

Indicators:

unemployment with no dimension : 1

With 1 dimension : $2 + 10 + 300 = 312$

With 2 dimensions : $2*10 + 2*300 + 300*10 = 3620$

With 3 dimensions : $2*10*300 = 6000$

Indicators Model (Cont'd)

- Each indicator should have identification code.

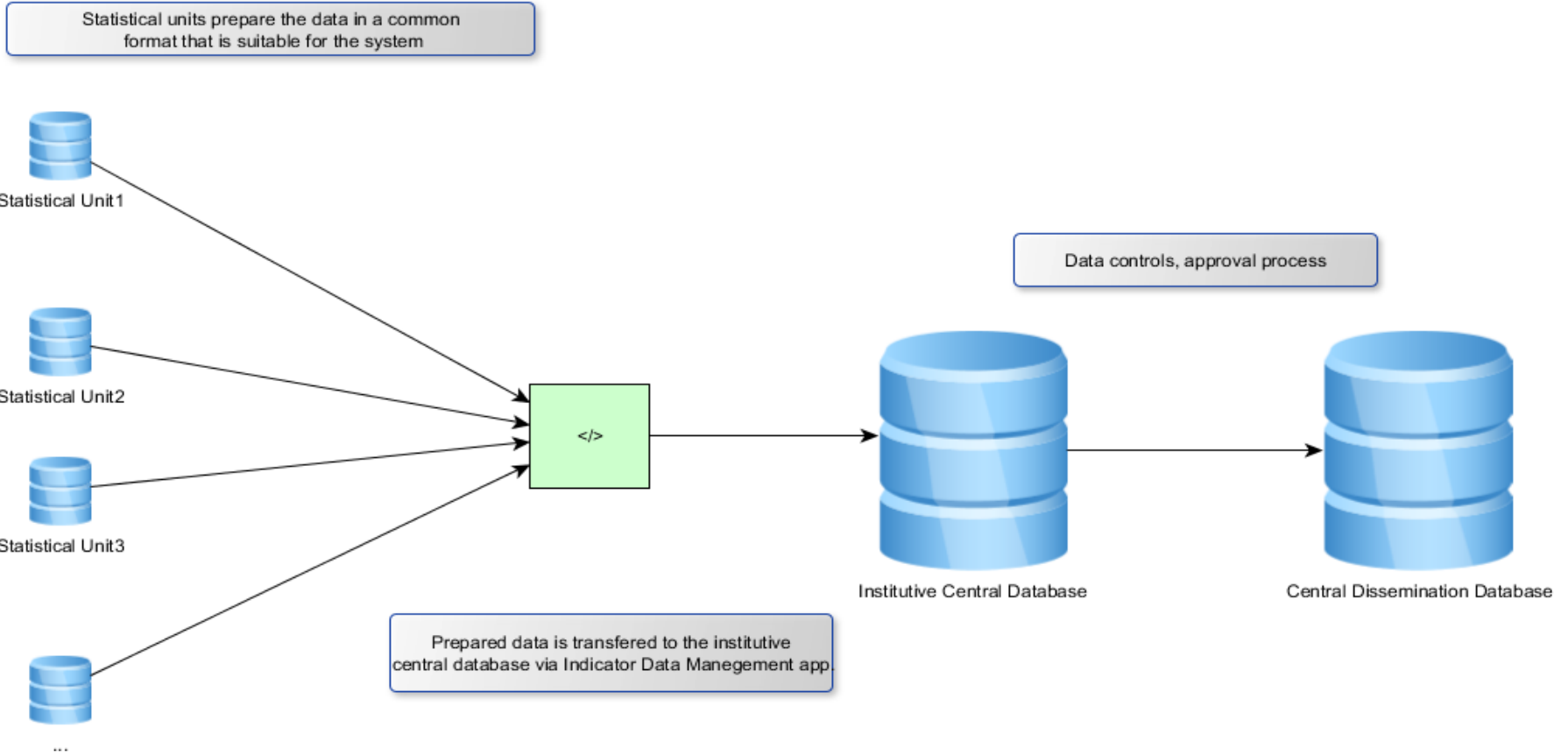
Indicator : Measurement + Dimensions

- There are also indicators that don't include any dimension (independence indicator)

Measurements and Dimensions **MUST** be coded.

A classification server should be used for all projects for dimension codes

Data Process of Central Dissemination Database



Fact Table Structure

YIL	AY	DON...	DUZEY	DUZEY_KOD	FACT_OLCUM...	GOSTERGE_NO	DEGER	DEGER_AD	GENEL_ALAN	VERI_TANIM	AKTIF_...	EGITIM	CINS...	KIR_KE...	ACI
2010	0	0	3	42		1 -999	243088	-999	-999	-999	0 -999	1	-999		260
2011	0	0	2	TR71		1 -999	248154	-999	-999	-999	0 -999	1	-999		
2011	0	0	2	TRB1		1 -999	249749	-999	-999	-999	0 -999	2	1		
2010	0	0	2	TRB1		1 -999	253520	-999	-999	-999	0 2	2	1		
2010	0	0	2	TRA2		-999 URF-GK1244-042	254729	-999	-999	-999	0 -999	-999	-999		
2010	0	0	3	7		-999 URF-GK1244-042	255644	-999	-999	-999	0 -999	-999	-999		

There is a standart fact table structure for each project

Dimension codes should exist in the **classification server**

Updating of the Classification server should affect all projects So be Careful !

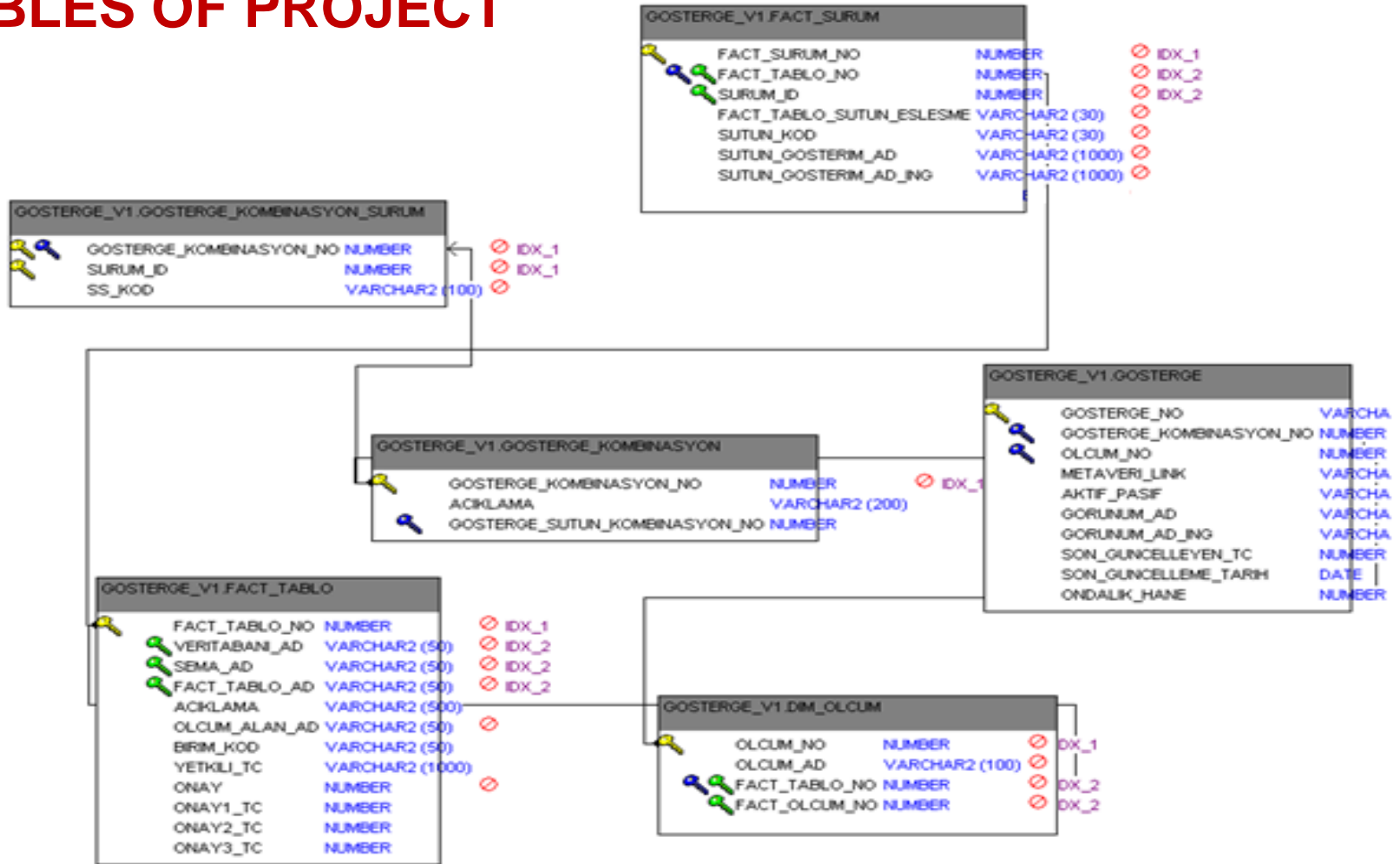
Fact Table Columns

1. YIL, AY, DONEM: Time
2. DUZEY, DUZEY_KOD: Place
3. FACT_OLCUM_NO: measurement id
4. GOSTERGE_NO: Indicator id
5. DEGER, DEGER_AD: Value
6. GENEL_ALAN: the reason of new data (data / metadata)
7. VERI_TANIM : flag for hiding data
8. AKTIF_PASIF: active/passive
9. DIMENSION ALANLAR: dimension columns
10. ACIKLAMAn, ACIKLAMAn_ING (n:max 10): Metadata

METADATA

- For each indicator (in indicator table)
- For each record
- There are 10 metadata column in fact table
- METAVERI_BILGI table contains metadata

TABLES OF PROJECT





Classification server's Table structure

Column Name
SATIR_ID
SURUM_ID
SURUM_ADI
SURUM_ADI_EN
KOD
TANIM
TANIM_EN
UST_KOD

**Generated data,
Waiting until release time**

Release time

GOSTERGE_V1.GOSTERGE_SATIR_ARA		
GOSTERGE_NO	VARCHAR2 (100)	
YIL	NUMBER (4)	
AY	NUMBER (2)	
DONEM	NUMBER (1)	
DUZEY	NUMBER (1)	
DUZEY_KOD	VARCHAR2 (50)	
DEGER	NUMBER	
DEGER_AD	VARCHAR2 (1000)	
GUNCELLEME_TARIH	DATE	
AKTIF_PASIF	NUMBER (1)	
FACT_OLCUM_NO	NUMBER	
FACT_TABLO_NO	NUMBER	
DISARI_ACLABILECEGI_TARIH	DATE	
METAVERI_ID	NUMBER	
VERI_TANIM	NUMBER	
GENEL_ALAN	NUMBER	

indicator's
identification code

GOSTERGE_V1.METAVERI_BILGI	
MV_ID	NUMBER
ACIKLAMA1	VARCHAR2 (400)
ACIKLAMA2	VARCHAR2 (400)
ACIKLAMA3	VARCHAR2 (400)
ACIKLAMA4	VARCHAR2 (400)
ACIKLAMA5	VARCHAR2 (400)
ACIKLAMA6	VARCHAR2 (400)
ACIKLAMA7	VARCHAR2 (400)
ACIKLAMA8	VARCHAR2 (400)
ACIKLAMA9	VARCHAR2 (400)
ACIKLAMA10	VARCHAR2 (400)
ACIKLAMA1_ING	VARCHAR2 (400)
ACIKLAMA2_ING	VARCHAR2 (400)
ACIKLAMA3_ING	VARCHAR2 (400)
ACIKLAMA4_ING	VARCHAR2 (400)
ACIKLAMA5_ING	VARCHAR2 (400)
ACIKLAMA6_ING	VARCHAR2 (400)
ACIKLAMA7_ING	VARCHAR2 (400)
ACIKLAMA8_ING	VARCHAR2 (400)
ACIKLAMA9_ING	VARCHAR2 (400)
ACIKLAMA10_ING	VARCHAR2 (400)
GUNCELLEME_TARIH	DATE

After release time

**The data
displayed on the web page**

GOSTERGE_V1.GOSTERGE_SATIR	
GOSTERGE_NO	VARCHAR2 (100)
YIL	NUMBER (4)
AY	NUMBER (2)
DONEM	NUMBER (1)
DUZEY	NUMBER (1)
DUZEY_KOD	VARCHAR2 (50)
DEGER	NUMBER
DEGER_AD	VARCHAR2 (1000)
GUNCELLEME_TARIH	DATE
AKTIF_PASIF	NUMBER (1)
FACT_OLCUM_NO	NUMBER
FACT_TABLO_NO	NUMBER
METAVERI_ID	NUMBER

APPLICATIONS

There are 3 applications

- 1 - Web application for Independence Statistical Indicators
(now includes 66 important indicators)
- 2 – GVVU - Data Management application for producing and managing data
- 3- MEDAS (Central Dissemination Application) : For querying
the central dissemination database

1- Web Application for Independence Statistical Indicators

Gösterge
TUIK

Gösterge Sabitle
Düzy Sabitle
Zaman Sabitle

Gösterge
Grup İstatist
Alt Grup İstatist

X Çevre-Çevresel harcamaların GSYH içindeki payı (%) (Yıllık)

Gösterge

Ar-Ge-Harcama (TL) (Yıllık)

Çevre-Kişi başı seragazi emisyonu (Ton CO2 eşdeğeri / Kişi) (Yıllık)

Dış Ticaret Endeksleri- Mevsim ve takvim etkilerinden anndınlmış ihracat miktar endeksinin bir önceki aya göre değışimi (%) (2010=100) (Aylık)

Zaman

Yıl

X 2008

X 2009

X 2010

Düzy

X Türkiye(TR)

Düzy

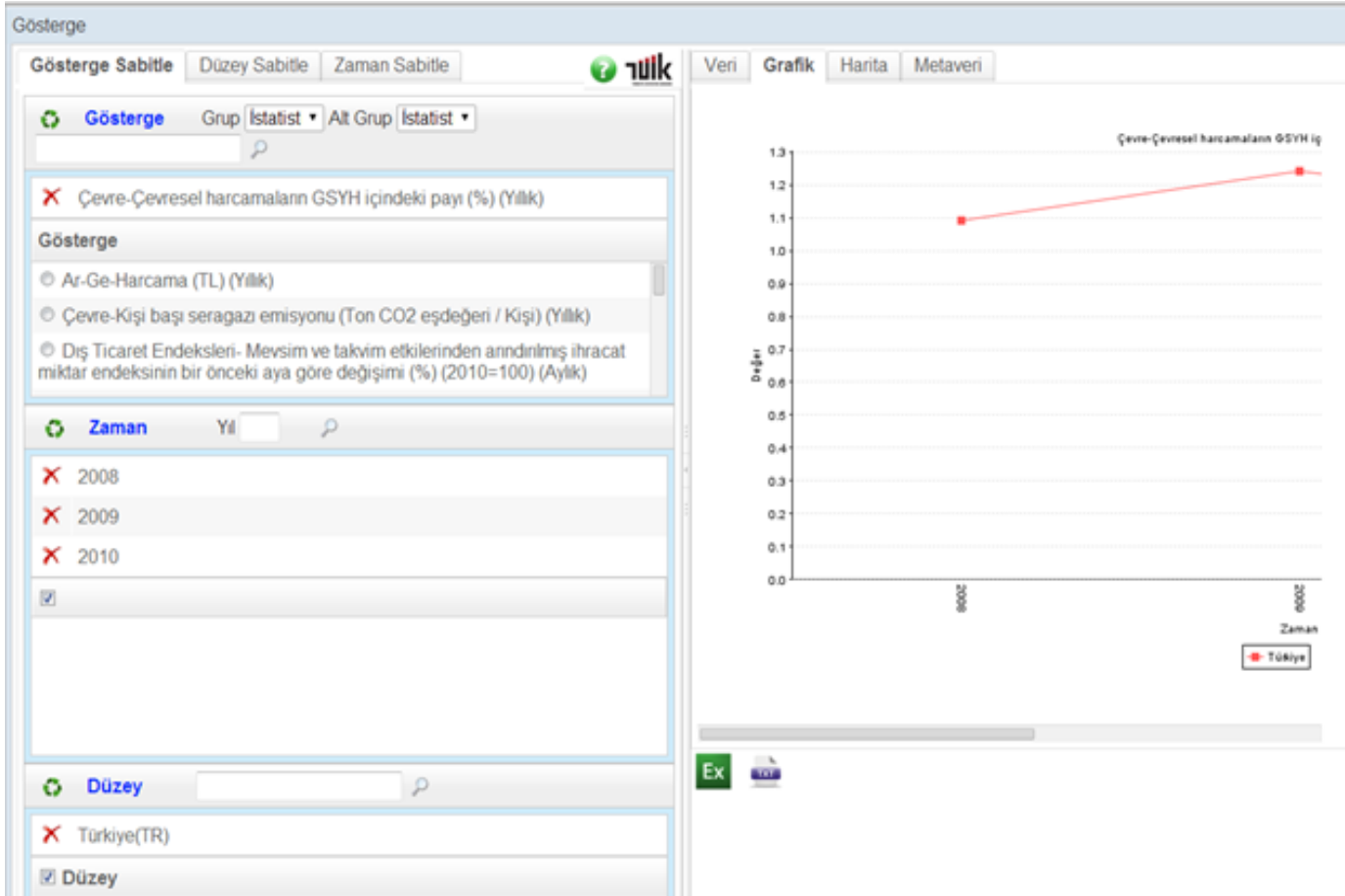
Veri
Grafik
Harita
Metaveri

Çevre-Çevresel harcamaların GSYH içindeki payı (%) (Yıllık)

	Türkiye
2008	1,09
2009	1,24
2010	1,11

Ex
STAT

1- Web Application for Independence Statistical Indicators (Cont'd)



2- GVVU Application

- This application is used by **TurkStat personels**
- **This is Central Data Management Application**
- Java is used, web based application

Missions:

- defining indicators and indicator's metadata, generating indicator ID
- Controlling department's data before deploying
- Deploying data into temporary tables
- Approval mechanism
- Deploying data into live dissemination table (Preparing MEDAS data)

2- GVIYU Application (Cont'd)

Gösterge Veri Yönetim Uygulaması

Projeyi seçiniz

Milenyum Göstergeleri(TUKGUVEN.GST_VERI_MILENYU)

Medine örnek(is_zekasi.gst_veri)

yeni ÖRNEKTİR -dagitdb1(is_zekasi.gst_veri)

Nüfus ve Göç İstatistikleri(NUFUS_GOC.GST_VERI)

İnşaat İstatistikleri(SANAYIHIZMET.GST_VERI_INS)

Sanayi İstatistikleri(SANAYI_URET.GST_VERI)

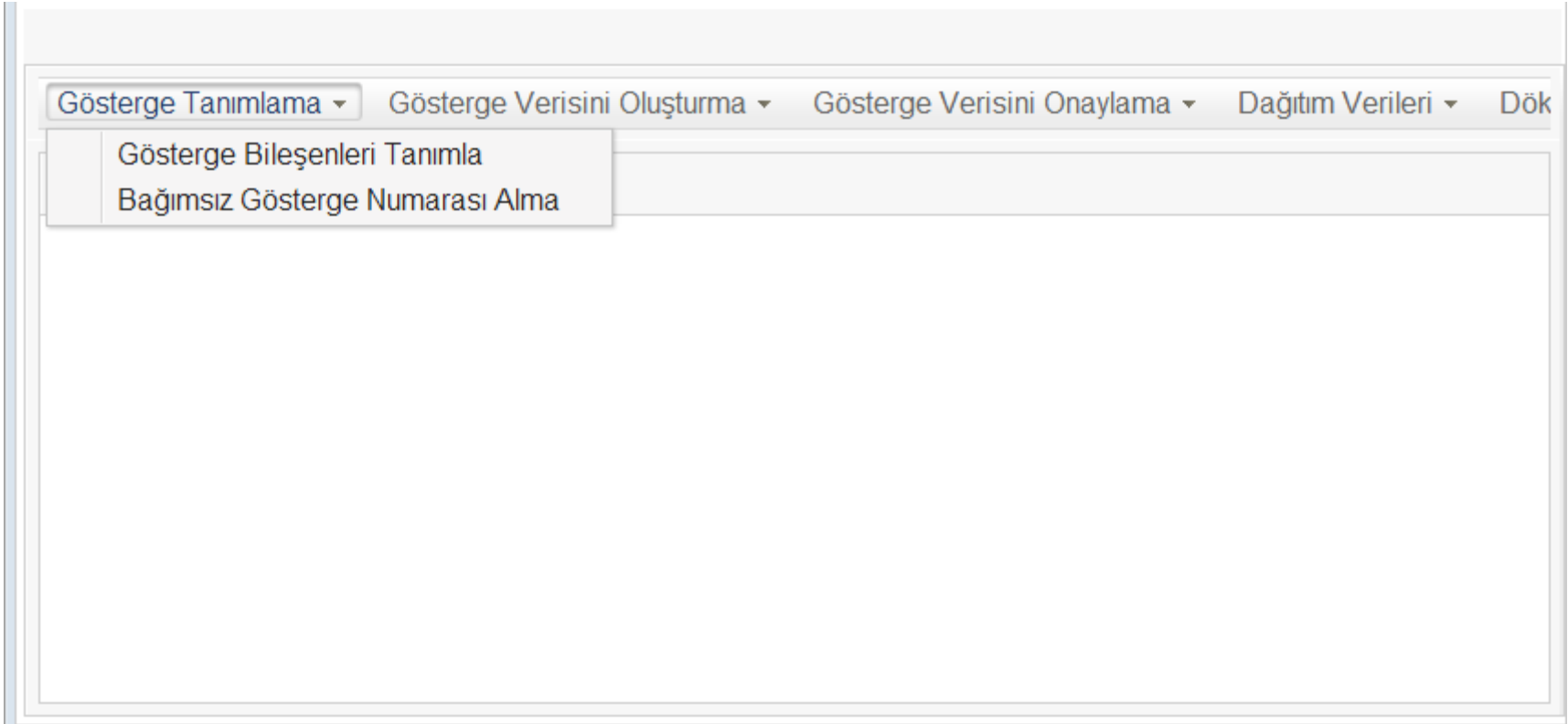
Hizmet İstatistikleri(SANAYIHIZMET.GST_VERI)

Çevre İstatistikleri(CEVRE.GST_VERI)

Havati ve Toplumsal Cinsiyet(DFMOGRAFI GST_VFRI)

Menuye Git

2- GYU Application (Cont'd)



The screenshot displays a web application interface for the GYU (Indicator) application. At the top, there is a navigation bar with five dropdown menus: "Gösterge Tanımlama", "Gösterge Verisini Oluşturma", "Gösterge Verisini Onaylama", "Dağıtım Verileri", and "Dök". The "Gösterge Tanımlama" dropdown menu is currently open, showing two options: "Gösterge Bileşenleri Tanımla" and "Bağımsız Gösterge Numarası Alma". The main content area below the navigation bar is empty.

Gösterge Tanımlama ▾ Gösterge Verisini Oluşturma ▾ Gösterge Verisini Onaylama ▾ Dağıtım Verileri ▾

Yapılan Son İşlemler

- Veri Kontrolü Yap
- Veriyi Geçici Alanda Oluştur

Veri Kontrol Ekranı

Mevcut Hatalar

ZİYARETCI_TUR kolonunda sınıflama sunucusunda olmayan kayıt!
Proje:=IS_ZEKASI.GST_VERI_TURIZM

CALISMA_DURUMU kolonunda sınıflama sunucusunda olmayan kayıt!
Proje:=IS_ZEKASI.GST_VERI_TURIZM

EGITIM_DURUMU kolonunda sınıflama sunucusunda olmayan kayıt!
Proje:=IS_ZEKASI.GST_VERI_TURIZM

ZİYARET_AMAC kolonunda sınıflama sunucusunda olmayan kayıt!
Proje:=IS_ZEKASI.GST_VERI_TURIZM

Menüye dön

3- MEDAS APPLICATION (Central Dissemination Application)



MERkezi DAğıtım Sistemi



By Indicator

 **Subject** 

 **Measurement**

Base year

Choose a Measurement

- Export unit value index (2010=100)
- Import unit value index (2010=100)
- Export volume index (2010=100)
- Import volume index (2010=100)



Time for a micro-break?

Break in 0:28

Number of chosen Indicators: 0 X Number of chosen Regions: 0 X Number of chosen Time: 0

3- MEDAS APPLICATION (Cont'd)

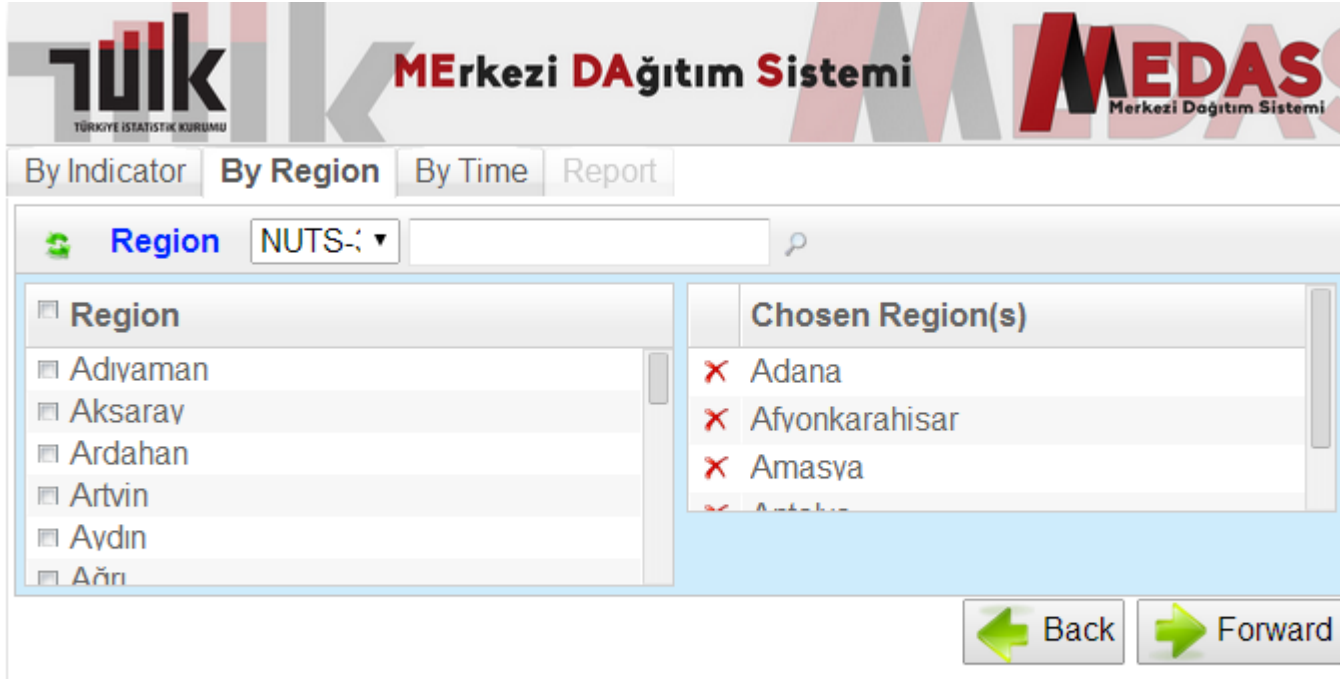


The screenshot displays the MEDAS (Merkezi Dağıtım Sistemi) application interface. The header includes the TUIK logo, the text 'MERKEZİ DAĞITIM SİSTEMİ', and the 'MEDAS' logo. Below the header, there are navigation tabs: 'By Indicator', 'By Region', 'By Time', and 'Report'. The main content area is divided into several sections:

- Subject:** A dropdown menu is set to 'House Sale Statistics'.
- Measurement:** A section titled 'Choose a Measurement' with 'House Sale Statistics' selected.
- Dimensions:** Two dropdown menus are visible: 'Sale Type' and 'Sale State'.
 - Sale Type:** Options include '<AB>', '(1) İpotekli Satış', and '(98) Diğer Satış'.
 - Sale State:** Options include '<AB>', '(1) İlk Satış', and '(2) İkinci El Satış'.
- Chosen Indicator(s):** A list of selected indicators with red 'X' icons:
 - KNT-GK99882-027001 House Sale Statistics->Sale Type:İpotekli Satış, Sale State:İlk Satış
 - KNT-GK99884-027001 House Sale Statistics->Sale Type:Diğer Satış, Sale State:İlk Satış

A 'Forward' button with a green arrow is located at the bottom right of the interface.

3- MEDAS APPLICATION (Cont'd)



The screenshot displays the MEDAS application interface. At the top, there are logos for TUIK (Türkiye İstatistik Kurumu) and MEDAS (Merkezi Dağıtım Sistemi). Below the logos, there are navigation tabs: "By Indicator", "By Region" (selected), "By Time", and "Report".

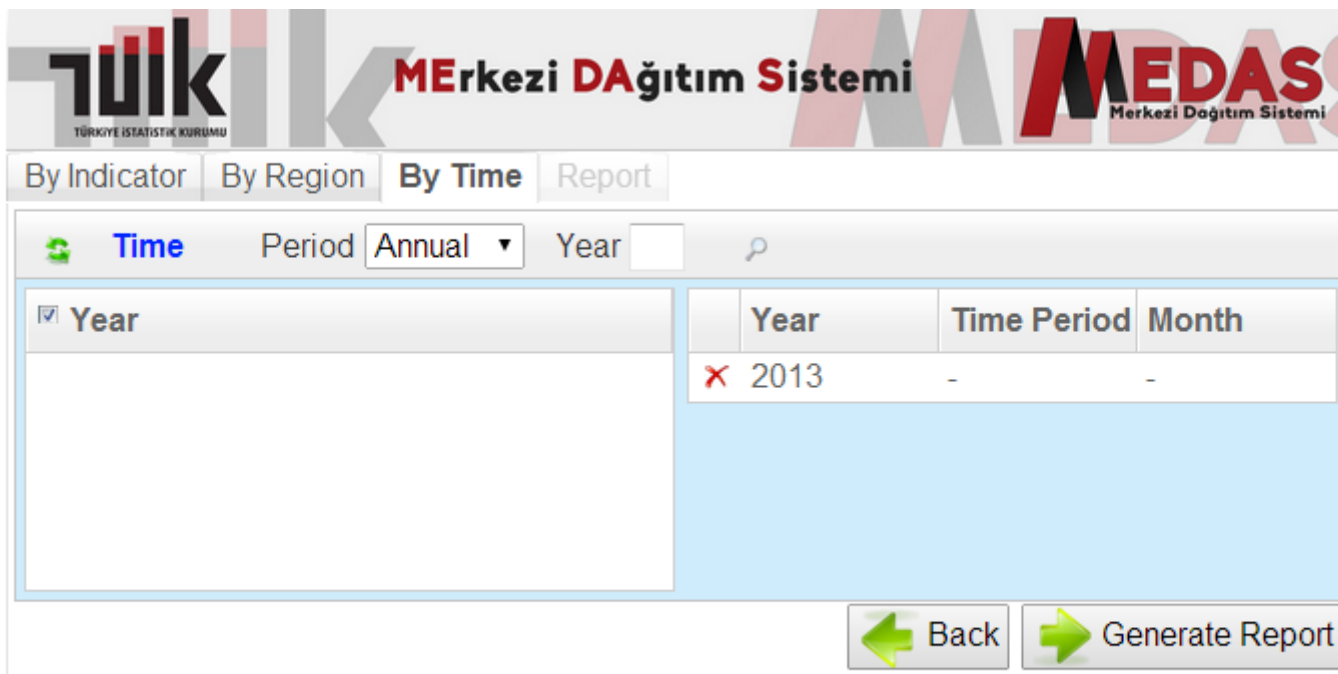
The main interface features a search bar with a "Region" label and a "NUTS-:" dropdown menu. Below this, there are two columns of region selection options:

Region	Chosen Region(s)
<input type="checkbox"/> Adıyaman	<input checked="" type="checkbox"/> Adana
<input type="checkbox"/> Aksaray	<input checked="" type="checkbox"/> Afyonkarahisar
<input type="checkbox"/> Ardahan	<input checked="" type="checkbox"/> Amasya
<input type="checkbox"/> Artvin	<input checked="" type="checkbox"/> Antalya
<input type="checkbox"/> Aydın	
<input type="checkbox"/> Ağrı	

At the bottom right of the selection area, there are two buttons: "Back" (with a left arrow) and "Forward" (with a right arrow).

Number of chosen Indicators: 2 X Number of chosen Regions: 5 X Number of chosen Time: 1

3- MEDAS APPLICATION (Cont'd)



The screenshot shows the MEDAS application interface. At the top, there are logos for TUIK (Türkiye İstatistik Kurumu) and MEDAS (Merkezi Dağıtım Sistemi). Below the logos, there are navigation tabs: "By Indicator", "By Region", "By Time", and "Report". The "By Time" tab is selected. Underneath, there is a "Time" section with a refresh icon, a "Period" dropdown menu set to "Annual", and a "Year" input field. Below this, there is a table with a checkbox for "Year" and a table with columns "Year", "Time Period", and "Month". The table contains one row with a red "X" icon, the year "2013", and dashes for "Time Period" and "Month". At the bottom right, there are "Back" and "Generate Report" buttons.

Year	Time Period	Month
2013	-	-

Number of chosen Indicators: 2 X Number of chosen Regions: 5 X Number of chosen Time: 1

3- MEDAS APPLICATION (Cont'd)



By Indicator | By Region | By Time | Report

XLS

You can move different variables of the report between rows and columns.

Row	Column
Region	Year
Measurement	Month
Dimension	Period

Update

Rows	Columns
	2013
AdanHouse Sale Statistiki Sale Type:Diger Sa	4,541
Sale Type:İpotekli İ	3,451
AfyoHouse Sale Statistiki Sale Type:Diger Sa	1,486
Sale Type:İpotekli İ	975
AmaHouse Sale Statistiki Sale Type:Diger Sa	1,416
Sale Type:İpotekli İ	896
AnkiHouse Sale Statistiki Sale Type:Diger Sa	31,079
Sale Type:İpotekli İ	22,545
AntaHouse Sale Statistiki Sale Type:Diger Sa	16,543
Sale Type:İpotekli İ	8,595

* Hidden Value

Number of chosen indicators: 2 X Number of chosen Regions: 5 X Number of chosen

What did we do until now in this project?

- 66 independent indicators are selected and are accessible through TurkStat websites (map and graphic is available for regional data)
- For now, the data is given up to province level. (Nuts3) (Also TR, Nuts1, Nuts2, Town and Municipality level data is available in Institutional DB)
- The Central Dissemination makes the comparison between different statistical subjects' possible.
- Till now 5 statistical units' data is uploaded for the central dissemination and could be queried by MEDAS Application (Not accessible on web page yet)

SUMMARY

- ✓ We use **Indicator** Model in Central Dissemination Database
- ✓ Indicators are generated using dimensions using a software program
- ✓ Central Dissemination System reduces reporting burden
- ✓ Central Dissemination System simplify administration of data
- ✓ End users can get dynamic reports, pivot reports and can export report to Excel
- ✓ We are developing the system, not finished yet

Important Notes

Separating the databases is important and necessary. **Production** database should include current data. **Institutional** database should contain both current and historical data. **Dissemination** databases should include only disseminated data.

The tables structures at the Institutional DB will be similar to Production database. For generating **aggregated data** at Institutional database, Materialized Views may be created or SQL s are used to generate new tables.

Standardization of codes is essential

Metadata system should be considered

Central dissemination is mandatory

Thank you & Questions ?