INTEGRATED CROPPING CALENDAR INFORMATION SYSTEM (ICCIS)

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2019

ICCIS ON WEBSITE v. 2.7 MK 2019

Current Status (Version 3)

MILESTONEs OF ICCIS

GENERATION I (2007-2011)

- Atlas and Book of Data Katam
- In Form of CD Katam
- Statis
- Based on Atlas Agroklimat Indonesia (Balitklimat, 2003), dan Peta Prediksi Curah Hujan dan Awal Musim BMKG
- Delivery system: *Off-line*

G-I

G-II

GENERATION II (2011-2019)

- Information System on Web basis
- Semi dynamic Changing
- Update information based on Rain Fall prediction according ZOM, than converted into District level
- Changing Delivery System from *off-line* and *on-line* using technology of nirkabel (internet, android & GSM).
- Monitoring data using data satelit MODIS (*standing crop*) dan CCTV (citra digital)

G-III

GENERATION III (MH 2019/2020)

- Information of Land Drought Prediksi around Indonesia
- Improve Water Balance Model for 3 Eco-region of Rainfed, Irrigation land and Swampy Area for cropping time and pattern
- Improve Information System of standing crop using Centinel-2 satellite
- *Next*: Automation on raw data of input to real-time information.

PRESENT CONTENT

At 7,042 Sub-district level	Crop pattern	Mechanization for agriculture
Start of rainy/dry season	Potential crop area	Swamp cropping calendar
Mean rainfall intensity	Drought and flood area	BPP's cropping information
Rain characteristics	Pest area	CCTV-based Crop monitoring
Daily rainfall for next 6-days	Variety/HYV recommendation	Satellite-based Crop monitoring
Start of time planting	Fertilizer recommendation	Livestock population & feed

PLANTING TIME FOR DRY SEASON 2019: RICE

PROVINSI	POTENSI LUAS TANAM PADI DI LAHAN SAWAH IRIGASI TEKNIS DAN SEMI TEKNIS MK 2019 (Ha)									
	MAR III-APR I	APR II-III	MEI I-II	MEI III-JUN I	JUN II-III	JUL I-II	JUL III-AGS I	AGS II-III	SEP I-II	TOTAL MK
11-ACEH	16,503	21,753	24,472	34,948	89,424	82,174	18,992	11,203	11,579	311,048
12-SUMATERA UTARA	128,929	38,879	-	42,964	56,921	101,394	125,411	73,423	-	567,921
13-SUMATERA BARAT	64,499	35,501	-	26,735	41,863	33,214	59,910	41,994	18,344	322,060
14-RIAU	39,721	19,418	-	-	-	-	39,941	17,207	57,006	173,293
15-JAMBI	17,177	29,190	-	26,006	-	-	19,385	32,166	4	123,927
16-SUMATERA SELATAN	8,132	22,112	-	25,199	29,169	-	1,603	15,551	97	101,865
17-BENGKULU	4,023	-	-	23,389	6,241	-	4,142	-	-	37,795
18-LAMPUNG	3,413	27,929	-	-	209	9,526	3,413	192,139	150,922	387,550
19-KEPULAUAN BANGKA BELITUNG	-	2,792	-	-	-	-	-	390	-	3,183
21-KEPULAUAN RIAU	159	-	-	-	-	-	134	-	-	293
31-DKI JAKARTA	-	-	-	-	-	-	-	-	372	372
32-JAWA BARAT	43,920	118,765	2,126	-	2,520	-	798	88,918	208,229	465,275
33-JAWA TENGAH	34,416	570	-	-	682	1,387	2,075	68,803	42,271	150,205
34-YOGYAKARTA	371	-	-	-	-	-	6,838	2,177	-	9,386
35-JAWA TIMUR	68,928	4,944	-	-	-	-	2,026	95,168	8,200	179,267
36-BANTEN	16,954	6,562	1,155	-	-	171	4,027	3,790	8,183	40,840
51-BALI	145	-	-	-	-	-	-	6,902	3,324	10,372
52-NUSA TENGGARA BARAT	-	-	-	-	-	-	-	-	-	-
53-NUSA TENGGARA TIMUR	-	-	-	-	-	-	-	-	-	-
61-KALIMANTAN BARAT	20,206	4,665	-	-	-	-	-	-	-	24,871
62-KALIMANTAN TENGAH	5,336	-	-	-	-	-	-	-	-	5,336
63-KALIMANTAN SELATAN	82,267	11,280	27,991	-	-	-	-	-	-	121,538
64-KALIMANTAN TIMUR	252	-	-	-	1,313	1,914	-	-	-	3,480
65-KALIMANTAN UTARA	-	-	-	-	-	1,898	-	-	-	1,898
71-SULAWESI UTARA	5,295	-	-	-	13,539	-	-	-	-	18,834
72-SULAWESI TENGAH	-	-	5,668	25,448	29,114	-	-	-	-	60,230
73-SULAWESI SELATAN	66,327	26,211	13,857	2,688	-	-	-	-	-	109,083
74-SULAWESI TENGGARA	-	-	23,958	754	8,449	-	-	-	-	33,161
75-GORONTALO	-	-	-	-	465	-	-	-	-	465
76-SULAWESI BARAT	1,653	10,914	5,137	6,327	289	-	-	-	-	24,319
81-MALUKU	-	-	-	-	-	-	-	-	-	-
82-MALUKU UTARA	-	-	-	-	-	-	-	-	-	-
91-PAPUA BARAT	1,027	-	-	-	-	-	-	-	-	1,027
94-PAPUA	286	-	-	-	-	-	-	-	-	286
INDONESIA	**629,938**	**381,485**	**104,363**	**214,458**	**280,196**	**231,678**	**288,696**	**649,832**	**508,533**	**3,289,179**

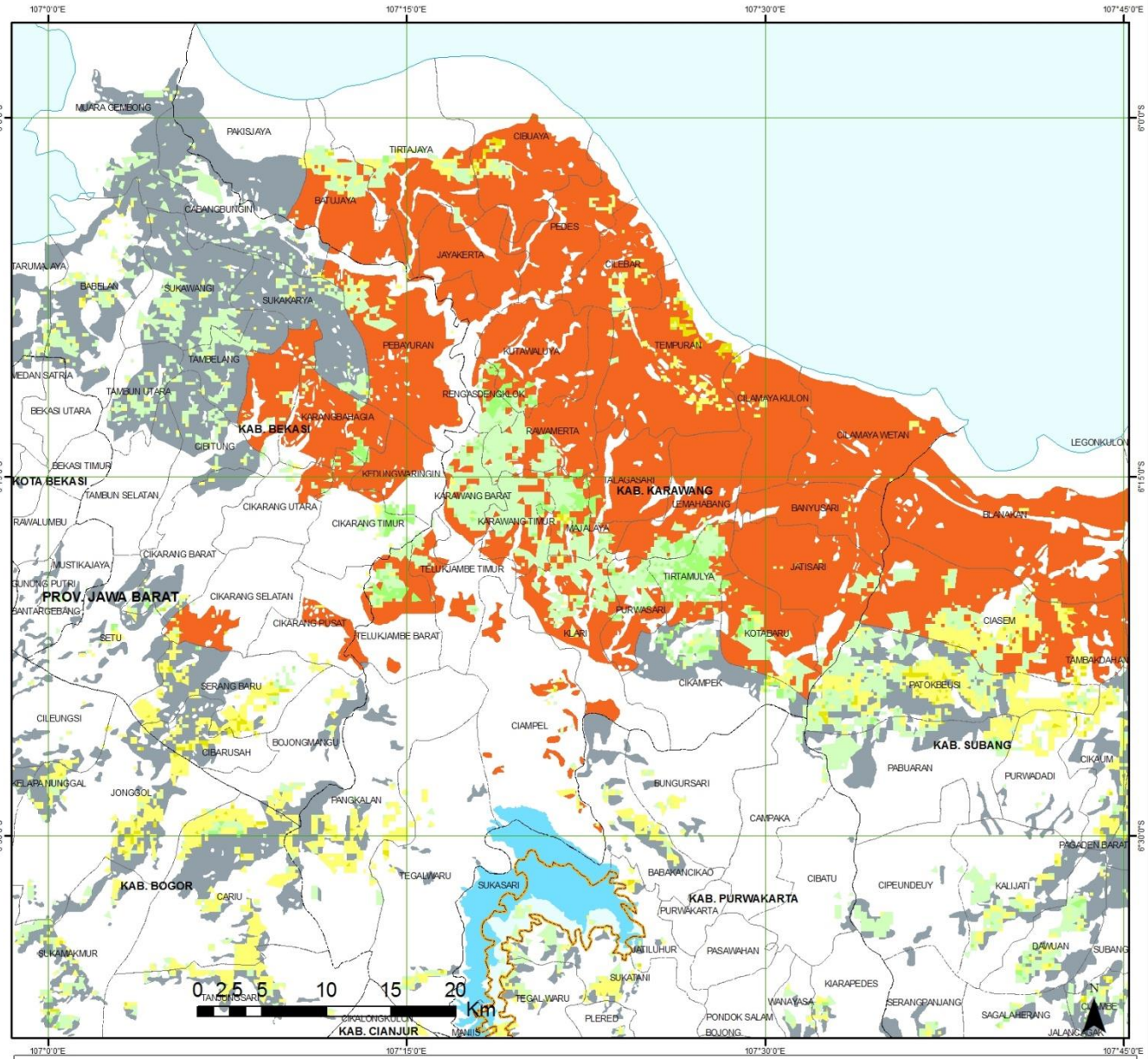
*) *Hasil analisis Tim Prediksi Katam Terpadu dalam rangka Menghadapi MK 2019*

PLANTING TIME FOR DRY SEASON 2019: MAIZE

PROVINSI	POTENSI LUAS TANAM JAGUNG DI LAHAN SAWAH IRIGASI TEKNIS DAN SEMI TEKNIS MK 2019 (Ha)									
	MAR III-APR I	APR II-III	MEI I-II	MEI III-JUN I	JUN II-III	JUL I-II	JUL III-AGS I	AGS II-III	SEP I-II	TOTAL MK
11-ACEH	1,889	-	-	-	-	-	4,682	-	3,332	9,903
12-SUMATERA UTARA	-	14,211	1,886	2,301	-	-	1,112	-	-	19,510
13-SUMATERA BARAT	-	-	-	-	416	-	-	-	-	416
14-RIAU	-	988	898	666	3,103	121	-	-	-	5,775
15-JAMBI	-	1,195	5,380	2,785	1,094	-	-	-	11,605	22,058
16-SUMATERA SELATAN	-	-	4,966	7,497	-	-	-	6,496	-	18,959
17-BENGKULU	-	-	-	12,106	4,817	-	-	-	-	16,923
18-LAMPUNG	-	-	420	27,282	-	10,128	-	-	12,157	49,986
19-KEPULAUAN BANGKA BELITUNG	-	-	-	-	548	-	-	-	-	548
21-KEPULAUAN RIAU	-	-	-	-	-	-	-	-	-	-
31-DKI JAKARTA	-	-	32	-	-	424	-	-	64	521
32-JAWA BARAT	-	163,466	60,905	9,498	-	5,938	-	253,970	22,162	515,940
33-JAWA TENGAH	-	137,475	-	-	20,267	-	-	266,005	-	423,747
34-YOGYAKARTA	-	-	-	-	-	-	-	21,564	-	21,564
35-JAWA TIMUR	629	35,567	-	-	-	-	1,258	370,505	-	407,959
36-BANTEN	-	2,655	38,954	2,121	-	-	-	-	62,802	106,532
51-BALI	-	-	-	-	-	-	-	13,436	-	13,436
52-NUSA TENGGARA BARAT	-	-	-	-	-	-	-	-	30,930	30,930
53-NUSA TENGGARA TIMUR	-	-	-	-	-	-	-	84	13,405	13,489
61-KALIMANTAN BARAT	-	5,266	-	23,858	9,773	27,620	-	-	-	66,517
62-KALIMANTAN TENGAH	-	-	-	6,027	-	96,137	-	-	-	102,163
63-KALIMANTAN SELATAN	-	-	-	62,550	-	13,352	21,571	-	-	97,474
64-KALIMANTAN TIMUR	-	-	-	-	-	35,747	-	-	-	35,747
65-KALIMANTAN UTARA	-	-	-	-	-	9,153	-	-	-	9,153
71-SULAWESI UTARA	-	-	355	-	-	20,178	384	-	-	20,917
72-SULAWESI TENGAH	-	-	-	-	-	7,201	25,284	-	-	32,485
73-SULAWESI SELATAN	-	-	-	2,986	-	16,777	157,126	-	-	176,889
74-SULAWESI TENGGARA	-	3,445	-	1,888	2,958	10,677	12,512	13,624	-	45,103
75-GORONTALO	-	-	-	-	-	20,161	-	-	-	20,161
76-SULAWESI BARAT	-	-	-	-	-	1,658	1,768	-	-	3,426
81-MALUKU	-	-	-	-	-	-	-	-	-	-
82-MALUKU UTARA	-	-	-	-	-	6,266	-	-	-	6,266
91-PAPUA BARAT	-	-	5,034	-	-	6,012	2,075	-	-	13,121
94-PAPUA	-	13,597	-	-	-	-	-	27,194	-	40,791
INDONESIA	**2,518**	**377,865**	**118,831**	**161,565**	**42,975**	**287,551**	**227,773**	**972,878**	**156,458**	**2,348,413**

*) *Hasil analisis Tim Prediksi Katam Terpadu dalam rangka Menghadapi MK 2019*

MAP OF RICE GROWTH PHASE



Sumber : Pengolahan Citra MODIS Juli 2014 (LAPAN), Overlay sawah rawan kekeringan dan prediksi curah hujan MK II 2014 (Balitbangtan) ; website: http://katam.litbang.deptan.go.id/

PETA FASE PERTUMBUHAN PADI SAWAH IRIGASI BULAN JULI 2014 PADA WILAYAH RAWAN KEKERINGAN BERDASARKAN PREDIKSI CURAH HUJAN MK II 2014 KABUPATEN KARAWANG JAWA BARAT

BADAN PENELITIAN DAN PENGEMBANGAN PERTANIAN
KEMENTERIAN PERTANIAN
2014

Legenda Umum

- Batas Kecamatan
- Batas Kabupaten
- Batas Provinsi
- Batas ZEE

Simbol	Fase Pertumbuhan Tanaman	Sarana Produksi yang disiapkan
	Vegetatif 1	Pupuk dan Air
	Vegetatif 2	Pupuk, Air, serta Alsin Pengendalian OPT dan Gulma
	Generatif 1	Pupuk, Air, serta Alsin Pengendalian OPT dan Gulma
	Generatif 2	Air, serta Alsin Panen dan Pasca Panen
	Sudah Panen	Traktor

Tingkat Rawan Kekeringan	Curah Hujan MK II 2014 (mm/bulan)	
	< 60	> 60
Endemis		
Sporadis		
Potensial		
Aman		

Indeks Global

PREDICTED RICE HARVEST AREA AND PRODUCTION BASED ON GROWTH PHASE

Islan	Prediction of Harvest Area (ha)				
	June	July	August	September	Total
1	3	4	5	6	8
SUMATERA	222.055	514.415	707.778	191.800	1.745.704
JAWA	367.733	935.170	727.792	438.993	2.965.373
BALI	4.205	14.969	38.524	13.212	72.327
SULAWESI	96.814	122.859	231.813	132.681	727.962
Total	**690.807**	**1.587.413**	**1.705.908**	**776.685**	**5.511.365**

Potency of Harvest Area Juni-September : 4.760.814 ha

Prediction of Rice Production Potency
June-September (Productivity: 5,13 t/ha) = 23.201.827,029 ton DGM

HOW TO UPDATE INFORMATION?

1) Communication with ICCIS's Local Task Worker (IAARD Province's Extension Worker)

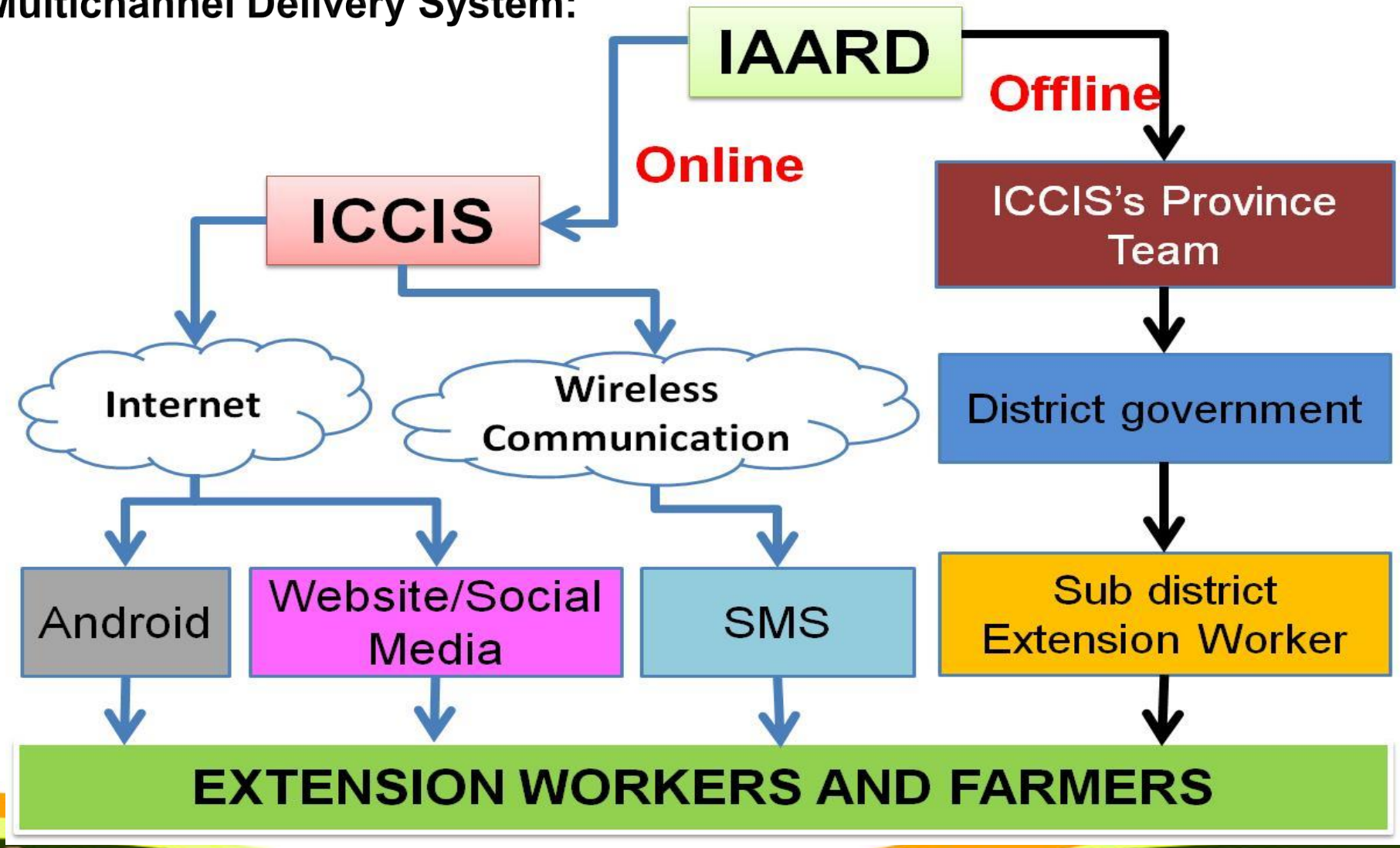
2) CCTV online,
   - Installed at 55 location in Lampung, Java and Bali,
   - Everyday (capturing every 30 minutes)

3) Crop growth stage: monitor growth stage of paddy by MODIS satellite, every 8 days.

CCTV-based monitoring system for rice growth phase

HOW DO THE ICCIS TO BE DELIVERED TO THE USER?

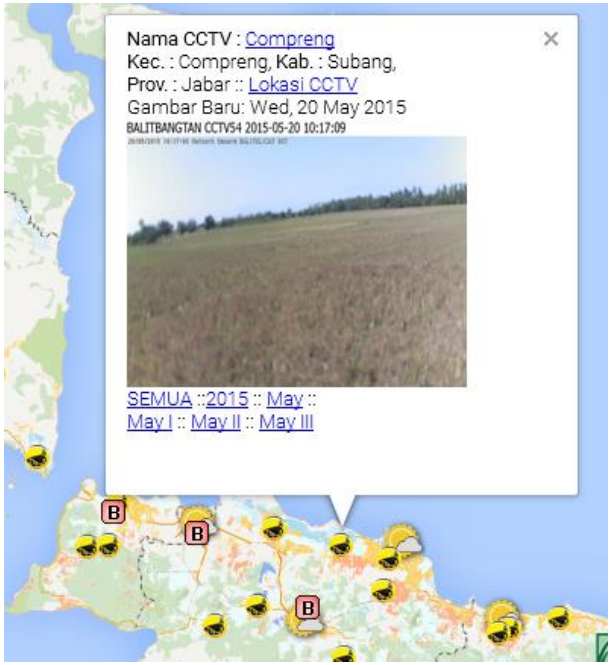
Multichannel Delivery System:



DELIVERY SYSTEM (1)

- Interactive Web
- Spatial technology

- 6,982 files of information for centers of agricultural extension
- SMS Center (082-123-456-500)



KALENDER TANAM TERPADU

MUSIM TANAM : MK 2015 (APRIL - SEPTEMBER 2015)

KECAMATAN : BONGAS

KAB/KOTA : INDRAMAYU, PROVINSI : JAWA BARAT

KOMODITAS : PADI SAWAH DAN PALAWIJA **AGROEKOSISTEM : LAHAN SAWAH**

INFORMASI UTAMA	
Luas Baku Sawah (ha)	: 4.154
Prediksi Sifat Hujan	: BAWAH NORMAL
Prakiraan Awal Waktu Tanam dan Luas Tanam	:

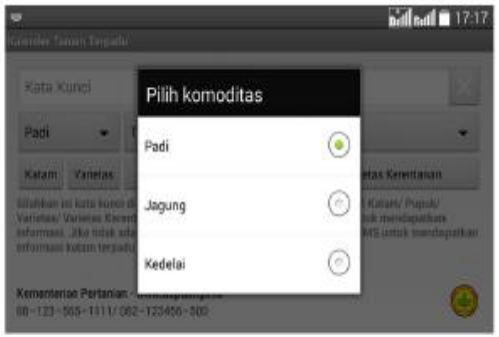
Komoditas	Musim Hujan			
	Tanam Pertama		Tanam Kedua	
	Awal Waktu Tanam (dasarian)	Luas Tanam (ha)	Awal Waktu Tanam (dasarian)	Luas Tanam (ha)
Padi Sawah	DES II-III	4.154	MASIH ADA TANAM PERTAMA	0
Jagung/ Kedelai	BERA	0	BERA	0
Kedelai		0		0

Komoditas	Musim Kemarau			
	Tanam Pertama		Tanam Kedua	

Balitbangtan
Kementan

DELIVERY SYSTEM (2)

❑ Android



- Social Media
  - Facebook Page : https://www.facebook.com/pages/Katam-Terpadu-at-Balitbangtan/368115300012607
  - Google + Page : https://plus.google.com/u/0/wm/1/102560165248527104154
  - Twitter : https://twitter.com/katamterpadu

What Next ? Support from Member Countries

- How to improve prediction accuracy?
  - At present, we use every 10 days
- How to enrich the content
  - At present, integrated material supporting farming system
- How to replicate upto regional level
  - This information can be as model

Thank You