

**Expression of Interest (EOI)  
For  
Consultancy Agency  
towards  
Design and Dissemination of Science-Based Agro-Advisories  
and Fertilizer Application Pilot assignment  
for  
Rejuvenating Watersheds for Agricultural Resilience through  
Innovative Development Program (REWARD PROGRAM),  
Govt of Odisha**

*The Director,  
Directorate of Soil Conservation & Watershed Development.  
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**EOI No. RE/DSC&WD/03/2023 Date. 01.07.2023**

**NOTICE INVITING EXPRESSION OF INTEREST**

- 1) Directorate of Soil Conservation and Watershed Development Odisha (DS&WD), Bhubaneswar on behalf of **Rejuvenating Watersheds for Agricultural Resilience through Innovative Development Program (REWARD PROGRAM)** invites Expressions of Interest (EOI) from Consultancy agencies having proven track record and experience and desirous to carry out the Design and Dissemination of Science-Based Agro-Advisories and Fertilizer Application Pilot assignment
- 2) Interested Consultancy agencies who meet the following minimum eligibility criteria may furnish their Expression of Interest with all the necessary supporting documents in a sealed cover along with the covering letter, duly signed by an authorized signatory
- 3) **Minimum Pre-Qualification Criteria**  
Following will be the minimum pre-qualification criteria. Responses not meeting the minimum pre-qualification criteria will be rejected and dropped from the RFP process.

<b>Sl No</b>	<b>Criteria</b>	<b>Supporting document</b>
1	Should be a Legal Entity of at least 5 years preceding 1.4.2022	Registration certificate indicating date of registration on or before 1.4.2018
2	If consortium, lead partner must have obtained letters of intent from the participating agency/ies	Letters of Intent from participating agency / ies
3	Must not be debarred / blacklisted by any GoI or State Govt. organizations / Central Public Sector Enterprises (CPSEs) / External Donor organizations including World Bank after 1.4.2020 for services of any description.	Undertaking to this effect dully signed by the authorized signatory.
4	Should have Cumulative Turnover of at least 15.00 Crore for the preceding five financial years i.e. 2018-19, 2019-20, 2020-21, 2021-22 & 2022-23	CA certified document with name of CA registration number, signature and stamp
5.	Should have 5 years of National / International Watershed Management experience, including science-based approaches, use of Land Resource Inventory (LRI) and Hydrology in particular, on or after April, 2013. Experience in Odisha is an added advantage.	List of Watershed Projects implemented dully signed by the authorized signatory. The list should indicate; Name of the project Sponsoring Agency Project Period Country / State/ District

		Treatment area Cost of the project Quantitatively verifiable outputs
6	Must have experience in delivery of agro-advisory services to farmers through use of Agril-Digital platforms.	List of agro-advisory services delivered dully signed by the authorized signatory. The list should indicate; Sponsoring Agency Platforms used Thematic areas of the contents No of farmers reached out Geographic coverage
7	The organization, if selected, will open a branch/office in Bhubaneswar, the state capital of Odisha.	An undertaking in this regard dully signed by the authorized signatory.
8	Experience of developing policy notes on climate resilient agriculture practices for consideration of Central Govt. / State Govt. / PSU/Govt. Bodies	List of policy notes submitted to Central Govt. / State Govt. / PSU/Govt. Bodies Dully signed by the authorized signatory. The list should include; Sponsoring Agency Title of the policy Note Date of submission Policy recommendations

- 4) The terms of reference (TOR) having all relevant data are attached in **Annexure - 1.**
- 5) In case of any Addendum /Clarification /Corrigendum /Extension regarding this EOI the same will be published in the E procurement portal.
- 6) After scrutiny of the Expressions of Interest (EoI), DSC&WD shall Issue the detailed RFP to the shortlisted agencies including both Technical & Financial proposals.
- 7) The Expression of Interest in a sealed cover must be submitted on or before e-procurement portal on 20.07.2023 by 5.30 P.M. and the hard copies submitted through Speed Post /registered Post or courier as on 26.07.2023 by 5.30 P.M at the following address:

**The Director,**  
**Directorate of Soil Conservation & Watershed Development.**  
**(DSC&WD) Odisha, Bhubaneswar.**  
**Krusha Bhawan,**  
**Keshari Nagar Bhubaneswar -751001,**  
**Telephones: 0674 -2391840**  
**Email: iwmporissa@gmail.com**

- 8) The EOI submitted by telegram/fax/e-mail,etc. shall not be entertained.
- 9) DSC & WS shall not be responsible for any postal delay or non-receipt/ non-delivery of the documents. No further correspondence on the subject will be entertained.
- 10) Consultancy Agency are requested regularly to visit the web site <https://www.soilodisha.nic.in/> for any updates.
- 11) Authority reserves the right to accept or reject any proposal, and to cancel the procurement process at any time prior to the award of contract, without assigning any reason thereof.
- 12) Submission of EOI in response to this notice shall be deemed to have been done after careful study and examination of TOR with full understanding of its terms, conditions and implications.
- 13) The Consultancy agency are responsible for all costs incurred in connection with participation in this process, including cost incurred in preparation of EOI, participation in meetings/discussion. The DSC & WD is in no case will be responsible or liable for these costs, regardless of the conduct or outcome of the EOI process
- 14) The EOI does not commit DSC & WD to award a contract or to engage in negotiation.
- 15) Subcontract of the Services are not allowed.
- 16) The authority may at its sole discretion and at any time during the evaluation of the Proposal disqualify any Bidder if the bidder has:
  - i. Made misleading or false representations in the forms, statements and attachments submitted in proof of the eligibility requirements
  - ii. Exhibited a record of poor performance such as abandoning works, not properly completing the contractual obligations, inordinately delaying completion or financial failures in any of the previous undertakings by the concerned bidder.
  - iii. Declared as ineligible/blacklisted by GoI /GoO/Dept of Agriculture or any other authorities for corrupt, fraudulent , unfair trade practices or any other reason.
  - iv. Submitted the proposal which does not satisfy each and every condition laid down in the minimum eligibility criteria.
  - v. Does not submit the proposal before the stipulated time line to the inviting authority
  - vi. Does not attach the required supporting documents along with the proposal.

17) Further DSC & WD reserves the right to modify/amend the contents of the bid before the last date of submission under due intimation to the bidders and the bidders may be asked to amend their proposal due to such amendments.

18) For any clarification and queries, please contact following officers during office hours.

1. Sri Kishor kumar Sahoo (Mobile No : 9937658424)
2. Sri S.N.Singh, ADA (Mobile No : 9437208967)

<b>Sl. No.</b>	<b>Information</b>	<b>Details</b>
1.	EOI No. and Date	RE/DSC&WD/03/2023 Dt. 01.07.2023
2.	Last Date and Time for submission of EOI	20.07.2023
3.	Address at which EOI to be submitted	D.S.C &WD (O)
4.	Date and Time of opening of EOIs	26.07.2023

The Director,  
Directorate of Soil Conservation & Watershed Development.  
(DSC&WD) Odisha,  
Bhubaneswar

**Rejuvenating Watersheds for Agricultural Resilience through Innovative Development Program (REWARD) in Odisha State**

**Terms of Reference**

**Design and Dissemination of Science-Based Agro-Advisories and Fertilizer Application Pilot**

**1. Background Information**

Of the 140 million ha of net sown area in India, about 51 percent (72 million ha) is rainfed and home to 86 percent of the country's poor. These rainfed areas, India's watershed landscapes, are characterized by low and erratic rainfall, high temperature, soil nutrient deficiencies, excessive runoff and high drought incidence. Climate change, excess water withdrawals, overuse of chemical fertilizers, and cultivation of agro-ecologically unsuitable crops are some of the main drivers of land degradation in India, along with erosion of topsoil reducing the land's carbon sink ability and water storage function. Furthermore, widespread use of chemical fertilizers in India, particularly subsidy-based nitrogen fertilizers, has led to decline in soil fertility and a number of environmental problems such as air and groundwater pollution. Since watershed landscapes contribute significantly to agricultural output (producing 44 percent of country's food grains, 80 percent of the pulses, 73 percent of oilseeds and 66 percent of livestock) and rural livelihoods, conservation and management of these watershed landscapes is paramount for the country's agricultural performance and overall growth.

Government of India (GoI) launched a new generation watershed program, the WDC-PMKSY 2.0<sup>1</sup>, in 2021 to cover about 5 million hectares across all states in the country with a central share of about INR 81,340 million (about USD 1000 million) and states will contribute their share also. World Bank is supporting the Department of Land Resources (DoLR), GoI and states of Karnataka and Odisha to improve watershed development in their states. This entails the adoption of science-based data<sup>2</sup> driven planning and execution of watersheds, strengthening community participation, adoption of climate resilient technologies and practices (including weather and LRI based agro-advisories) by farmers and value addition and market linkage by farmer producer organizations engaged within the watersheds for enhanced incomes and increased resilience. Rejuvenating Watersheds for Agriculture Resilience through Innovative Development (REWARD) is a US\$115

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<sup>1</sup> Watershed Development Component of the Pradhan Mantri Krishi Sinchai Yojana

<sup>2</sup> Science based data is based on detailed Land Resources Inventory (LRI) methods and Hydrological surveys in watershed areas

million loan using a Program for Results instrument and is under implementation from March 24 2022 until June 30 2026. The Government of Odisha's loan is equivalent to US\$ 49 million out of the total loan mentioned above.

The Program Development Objective of REWARD is to *'strengthen capacities of national and state institutions to adopt improved watershed management for increasing farmers' resilience and support value chains in selected watersheds of the participating states'*. The World Bank financing will be disbursed against the achievement and verification of pre-identified Results associated with Disbursement Linked Indicators (DLIs).

REWARD aims to;

- Collect Land Resource Inventory (LRI) and hydrology data in 1.5 million (1 million in Karnataka and 0.5 million ha in Odisha) through use of field data, advanced modelling and remote sensing maps for watershed planning and implementation purposes and to influence farmer decisions on cultivation practices.
- Strengthen the community level watershed committees to implement the watershed treatment, maintain it and also absorb the science-based knowledge and advisories
- Promote adoption of resilient agriculture technologies and practices.
- Strengthen Farmer Producer Organizations (FPOs) within the REWARD areas for improved market-linkages and value chains.
- In addition, the REWARD program aims to support pilots on critical issues such as rationalization of fertilizer application.

These outcomes are measured through a set of PDO result indicators and intermediate result indicators. Some of these results indicators are selected as DLIs mentioned earlier, upon completion of which the World Bank's finances are released to the state governments. All the details are available in the Program Appraisal Document (PAD) and Program Manual of REWARD that are publicly available documents

One PDO indicator, also a DLI, and two intermediate result indicators are important for this assignment. They are;

- PDO indicator: Number of farmers who adopt agriculture technologies and practices recommended through agro-advisory.
- This is DLI-3 and carries an allocation of about 15% of the total World Bank assistance under REWARD. The DLI target for Odisha is 16200 farmers (5400 in year III, 0, 6750 in years IV and V).
- Two Intermediate Result Indicators for Odisha:
  - 43,200 farmers accessing agro-advisory information (Includes 30 % women & 20 % SC / ST farmers)

- Results from a pilot on science-based fertilizer application captured and disseminated.

## **2.0 REWARD in Odisha**

Directorate of Soil Conservation & Watershed Development (DSC&WD) under the Department of Agriculture & Farmers Empowerment, Government of Odisha is the State Level Nodal Agency (SLNA) for Watershed Development Component of Pradhan Mantri Krishi Sinchayee Yojana (WDC-PMKSY). DSC&WD is the nodal agency for the REWARD project in Odisha, which is operational from 2021-22 to 2025-26.

DSC&WD has signed MoUs with six academic and research institutions (or technical partners) of national repute<sup>3</sup> for; (i) collecting samples, testing and developing LRI information in each sub-watershed, (ii) collecting hydrology information and its analysis, and (iii) developing/ refining Decision Support Systems (DSS) and support DSC&WD teams in developing detailed project reports (DPRs) for the target watersheds. Rich site-specific scientific data is coming through this process and would be hosted in a web-portal under development. This information will be converted into LRI cards for each plot and distributed to the farmers along with site-specific advisories.

The DSC &WD is in the process of hiring a state level support agency for developing standard capacity building modules, train master trainers, develop a capacity building plan and also develop appropriate communication packages.

At the district level, the Project Implementation Agencies (PIAs), part of the DSC&WD, are responsible for planning and implementation of the projects. To support the PIAs, district level support agencies (NGOs) are also being hired who will work closely with the Watershed Committees in the process of planning, execution and O&M of the treated watersheds.

This Consultancy assignment is for an agency of national / international repute having demonstrated expertise in the field of crop & weather agro advisory services and promotion of resilient crop practices to support them in achievement of the DLI-3 and the two Intermediate Results Indicators described above.

## **3. The Overall Objectives of this Assignment**

The overall objectives of this assignment are:

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<sup>3</sup> These are: (i) ICAR- National Bureau of Soil Survey and Land Use Planning, Kolkata (LRI) (ii) Orissa University of Agriculture & Technology, Bhubaneswar (LRI & Hydrology), (iii) ICAR-Indian Institute of Water Management, Bhubaneswar (hydrology), (iv) ICAR-Indian Institute of Soil & Water Conservation, Sunabeda (hydrology), (v) Indian Institute of Technology, Bhubaneswar (Hydrology), and (vi) Odisha State Remote Sensing Application Center, Bhubaneswar (remote sensing)



- (i) To finalise a core set of resilient agriculture technologies & practices that include recommendations from LRI data analysis, and validate them through appropriate farm level demonstrations.
- (ii) To develop digital tools and other appropriate mechanisms to effectively disseminate the above advisories to the target farmers and capture adoption of the same
- (iii) To design and support implementation of a **state specific innovation pilot** on science- based fertilizer application.

#### **4. Broad Scope of Activities**

##### **4.1 Part A - Finalize a Core Set of Resilient Agriculture Technologies and Practices**

DSC & WD has identified an indicative list of resilient technologies which is reflected in the Program Manual. The technical partners will also recommend appropriate crop management measures, based on LRI and hydrology data analysis for each sub-watershed while preparing the DPRs (Detailed Project Reports). The Consultant shall finalize and recommend a core set of resilient agri-technologies and practices, including measures related to crop diversification, water use efficiency, and other package of appropriate practices, that strengthen resilience to climate change impact for the given agro-climatic zone. DSC &WD shall review the same and approve a final list, as appropriate .

The following is a suggestive methodology to achieve this objective.

- Rapid appraisal of existing farm practices / technologies that are currently practiced in the REWARD operational areas and also the agri-advisories provided to them through different departments/ channels and identify key areas that need to be addressed. Also assess the channels (digital and others) accessed by the farmers for agri-advisories and their strengths and weaknesses. The channels include DAFE's free mobile phone based Agricultural Advisory Service 'AMA KRUSHI'<sup>4</sup>.
- Review the suggestions provided by the technical partners in different DPRs, the list mentioned in the Program Manual and other lists available with key stakeholders. Synthesize the same and develop a master list of suggestive practices and technologies, to address the weaknesses identified in the current practices.
- Discuss the master list with key stakeholder in a workshop organized by DSC&WD, where in experts from technical partners, other related departments and other expert organizations will participate and contribute to the deliberations. Refine the master list, based on these inputs. DSC &WD shall review the same and approve a final list, as appropriate.

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<sup>4</sup> More information about AMAKRUSHI is available at <https://www.amakrushi.in/> and <https://precisiondev.org/project/ama-krushi/>

- Chalk out a programme for demonstration of approved agriculture technologies and practices and their validation in demonstration plots in the REWARD project areas, selected in consultation with DSC &WD and others. Develop a Standard Operating Procedure (SoP) for smooth conduct of these demonstrations.
- Train a batch of 50 master trainers (2-3 per SWS), to be selected in consultation with DSC & WD) on the SoPs and provide hands on support to the Project Implementing Agency (PIA) for successful conduct of these demonstrations in farmers' fields. Develop a plan of action for cascading the trainings to MWS level. In total it is estimated that there will be 200 demonstrations per sub-watershed.
- Undertake process monitoring and capture performance of the demonstrations in the farmers' field through pre-defined sample field visits, discussions with farmers and implementing agencies. Document learnings and refine the SOPs as required for wider use in the REWARD target areas.
- Organise district level experience sharing workshops (one in each REWARD district) involving farmers and extension officers

#### **4.2 Part B - Develop Agro-advisory Tools for Dissemination of Resilient Technologies and Practices for Measurement of DLI-3**

The DLI-3 measures the number of farmers (at least 16,200 farmers) who adopt at least one technology/practice from a core set of resilient agriculture technologies and practices recommended through agro-advisory. The core set of resilient agriculture technologies and practices are those defined under Part-A of this assignment. The agro-advisory may be provided through multiple channels including: LRI cards, digital channels (mobile phones etc), bulletins, communication through extension workers, farmer training programs, etc.

The related intermediate result indicator measures the number of farmers (at least 43,200 farmers) who receive science / weather based agro-advisory information that will strengthen their resilience to climate change impacts, at least once in the Program duration through various channels described above.

Both these results require appropriate tools/ mechanisms to disseminate the agro-advisories finalized by the state and capture outreach and adoption.

The following is a suggestive methodology to achieve this objective.

- Based on the rapid field assessments (under Part-A), design an outreach framework for making available the above agro-advisories to the target farmers in a timely and effective manner. Develop a matrix of the advisories and most appropriate tool/s that can be used to push them. Develop

appropriate materials and SOPs for all the selected technologies/ practices, to suit the channels to be used for outreach.

- Study the AMAKRUSHI IT system/ architecture and assess how many advisories can be pushed through this platform. To the extent required, refine/ strengthen the platform in collaboration with DAFE to push these selected advisories through the platform.
- Field-test the digital tools and SOPs of other approaches for their efficacy, in collaboration with district offices, PIAs and local NGOs. Finalize the digital tools and SOPs of other approaches, based on results from field tests.
- Train a core set of about 50 Master Trainers (2-3 from each SWS) for using the agro-advisory tools. Each trainee in turn will cascade the training to functionaries at the SWS level so that an estimated catchment of about 2000 primary stakeholders (target farmers) at SWS are covered.
- Conduct follow up visits to farmers' fields to gain an understanding of adoption levels
- Actively participate in state level exhibitions-cum-knowledge sharing event "Krusha Odisha" with selectively woven information packages including live demonstration of technologies and systems relating resilient crop practices.

#### **4.3 Part C - State Specific Fertilizer Pilot**

One of the intermediate results of the REWARD project is to design and implement a pilot to demonstrate results of fertilizer application based on science-based recommendations, emerging from LRI data. The pilot results will be captured and disseminated for policy recommendations, as appropriate.

The following is a suggestive methodology to achieve this objective.

- Identify one REWARD cluster of micro-watersheds for the pilot, in consultation with DSC &WD, technical partners and other key public and private stakeholders, based on LRI data and other factors.
- Design a time bound pilot project along with activities to be implemented, institutional arrangements, communications plan, monitoring mechanisms to capture results and financial requirements, in consultation with the DSC &WD and other implementation agencies. The project has to be completed within the overall REWARD time frame. Discuss the same with DSC &WD and finalize the same.
- Support implementation of the project and also monitor results.
- Capture and document the results and lessons from pilot project and disseminate the same through a state level workshop.

#### **4.4 Part D- Miscellaneous**

Support State Project Management Unit of REWARD to integrate Disbursement Linked Indicator (DLI # 3) and intermediate result indicators (in respect of No of farmers adopting climate resilient technologies and no of farmers accessing agro advisories) in the mainstream MIS.

#### **5. Deliverables and Time Frame**

The following is a tentative list of key deliverables under the assignment and related time frame and payment schedules. The same shall be finalized before final agreement with the selected agency.

<b>Sr. No</b>	<b>Deliverable</b>	<b>Time Frame (Weeks from starting)</b>	<b>Fee Payable (%)</b>
1	Inception report, detailing the methodology, process and time frames for completing the assignment	2	10 %
2	A master list of suggestive resilient practices and technologies recommended, and DSC & WD approves a final list. A programme for demonstration of approved resilient practices & technologies along with the Standard Operating Procedure for smooth conduct of these demonstrations developed .	8 8	5 % 10%
3	Finalise the digital tools and SOPs of other approaches to enable implementation of REWARD's goal of disseminating agro advisory to the target farmers in a timely and effective manner	10	15 %
4	Training of Trainers (ToT) conducted on SOPs on conduct of demonstrations and use of agro-advisory tools developed at deliverables 2 & 3.	12	10 %
5	State specific fertiliser pilot design finalised along with activities to be implemented , institutional arrangements , communication plan, monitoring mechanisms and financial requirements	14	20 %
6	State Level Workshop conducted Results from pilots on science-based fertilizer application captured and disseminated - One policy document	24	10 %

7	43200 No of Farmers received Agro-Advisory information through digital tools and / or alternate extension channels including trainings / LRI Cards	In accordance with the DLI verification protocols.	10 %
8	16200 No of farmers adopted recommended resilient technologies and practices.		10 %

## **6. Agency Qualifications**

- a. National and international watershed management experience, including science-based approaches.
- b. Experience in promoting field adoption of climate resilience agriculture practices, including science-based fertilizer application.
- c. Experience in developing policy notes in the field of Natural resource Management/ climate change / resilient agriculture technologies / science-based fertiliser application
- d. Experience in participatory technology Demonstration, validation and refinement.
- e. Experience in collaborating with Government, academic, research and civil society organizations to undertake interventions intended to build system level resilience.
- f. Experience in delivery of agro-advisory services to farmers through use of digital tools and alternate extension channels and training.

## **7. Manpower Requirement and Qualification**

A suggestive team composition is given below, but the agency / consortium will have the flexibility to put together a team suitable for the assignment.

No	Position	Qualification and Experience	Area of Specialisation (Work to be done)
1	Team Lead	PhD with minimum 10 years' experience in Agriculture Extension, dissemination of Agro-Advisories, technology demonstrations and policy innovation pilots on science-based fertiliser application.	Project coordination, Liaising with partners and DSCWD, Agriculture & FE department
2	4 Subject Matter Specialists (SMS) - One each from	PhD with minimum 8 years' experience/ PG with 10 years' experience in the field Soil	Refine core set of resilient practices, Capacity Building,

	respective disciplines)	Science, Agronomy, Horticulture, Agri Extension and IT (agri-digital platforms)	Design state specific innovation pilots and apply innovative extension methods for advisory dissemination.
3	Project Associate	Masters with 5 years' research experience in the field of fertiliser application and extension services.	Conceptualize and monitor fertilizer innovation pilots, stakeholder meetings and establishing monitoring systems
5	18 Field Officers, one each in 18 REWARD clusters	Graduates with a minimum 5 years' experience in agriculture extension	Monitor technology demonstrations, CB events, dissemination of agro advisories at cluster level and hand holding support to PIAs/NGOs.

### **8. Support to be provided by DSC&WD**

The DSC& WD would provide the following support to the consultant

- Brief them on the REWARD project and share the PAD and Program Manual
- Link them with the technical partners working on science-based approaches (LRI, Hydrology, remote sensing etc) and assist in understanding the approaches
- Invite the agency to state level workshop/ training program on science-based approaches, as appropriate
- Review the draft notes/ reports/ training modules and provide adequate feedback, in a timely manner
- Use its good offices to assist the Agency in obtaining requisite information from the offices concerned of the State.
- Provide financial support as per the program needs.

### **Annexure I: REWARD Operational Area**

SL.NO	DISTRICT	BLOCK	NO OF MWS	GEO.AREA IN HA	TREATABLE AREA IN HA
1	SAMBALPUR	KUCHINDA	11	7646	7143
2		RAIROKHOL-1	13	6362	6235

		RAIROKHOL -2	9	5622	5509
3		RAIROKHOL -3	9	8333	6500
4		JUJUMURA - 1	8	6788	6448
5		JUJUMURA - 2	11	8918	6910
	TOTAL		61	43669	38745
6	DHENKANAL	KANKADAHADA	11	6769.88	5517
7		HINDOL	11	7249.74	6476
	TOTAL		22	14019.62	11993
9	NAYAGARH	ODAGAON	12	6788.85	6365
10		DASPALLA	15	7770	6456
	TOTAL		27	14558.85	12821
11	DEOGARH	BARKOTE	9	6629.75	5030
12		REAMAL	9	6859.3	5010
	TOTAL		18	13489.05	10040
13	KORAPUT	BOIPARIGUDA	6	6485.76	6220
14		BOIPARIGUDA	9	6546.49	5923
15		JAYPORE	11	6025	5590
16		JAYPORE	8	6054	5500
17		BORIGUMA	7	6638.73	6300
	TOTAL		41	31749.98	29533
	GRAND TOTAL		169	117486.5	103132