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**Orissa's pani panchayats -
a case of successful
irrigation management**

by

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Summary

In Orissa, India, participatory irrigation management (by water user groups, pani panchayat) has been strongly expanded with the Orissa Pani Panchayat Act (2002) and the Orissa Pani Panchayat Rules (2003). By end of 2008, 15,500 pani panchayats have been formed, representing an area of more than 1.5 mio. ha. Experience from their operation is clearly positive. There is no doubt that pani panchayats are an excellent platform for increased agricultural production and for improved economic conditions of the farmers.

Acronyms and abbreviations

DWR:	Department of Water Resources (Orissa)´
IWRM:	Integrated water resources management
O&M:	Operation and maintenance
PIM:	Participatory irrigation management
WUA:	Water user association
SRI:	System of Rice Intensification

Glossary

IWRM (integrated water resources management) (as defined by Global Water Partnership): A process which promotes the co-ordinated development and management of water, land and related resources, in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems

Kharif (or sarrad): The monsoon rice cultivation period and the main cultivation period. The crop is sown around the beginning of the southwest monsoon and harvested in the autumn

NPK fertilizer is a blend of inorganic nitrogen (N), phosphorus (P) and potassium (K), preferably provided in a ratio that fits the specific crop requirements. Depending on the circumstances, 1 kg of fertilizer can provide the same additional rice yield as 40-60 m³ of water

Pani panchayat: Farmers water users association

Rabi (or 'second crop', or spring crop): Dry season rice cultivation period, sown in the autumn and harvested in the spring

Southwest monsoon (or just 'monsoon', or 'rainy season'): In Orissa, the monsoon starts some time in June and lasts until mid October. Almost 80 percent of the annual rainfall occurs during the monsoon

SRI, System of Rice Intensification: The SRI methodology was developed in the early 1980s by a Jesuit priest, Farther Henri de Laulanié, who came to Madagascar from France in 1961 and spent the next (and last) 34 years of his life working with farmers to improve their agricultural systems. As compared with traditional paddy cultivation systems, SRI can potentially provide a much higher yield while saving around 50 percent of water, both with traditional and new rice varieties, but with a higher input of labour. SRI has been implemented or tried in many countries, from case to case with positive, inconclusive or negative results.

1 Introduction

The present short paper describes the participatory irrigation management modalities adopted by Orissa, together with some related experience.

2 Background

In Orissa, participatory irrigation management dates back to the 70-ies. The concept was promoted in the 90-ies under the Orissa Water Resources Consolidation Project, where four pilot water user associations (WUAs) were established. The experience was positive. In September 2000, the Chief Minister launched a programme to expand the concept to cover all major, medium, minor and lift irrigation projects in the state. At the same time, the term WUA was replaced by pani panchayat (PP). By end of 2008, 15,500 pani panchayats have been formed, representing an area of more than 1.5 mio. ha.

Table 1: Status for implementation

Type of project	no. of PPs	area
Major and medium	2,254	1.0 mio ha
Minor	1,883	0.3 mio. ha
Lift	11,413	0.2 mio ha
Total	15,550	1.5 mio ha

Participatory irrigation management is promoted with the following aims:

- Improvement of the farmers' socio-economic status
- Crop diversification and crop intensification
- Proper value of agricultural products
- Equitable and reliable distribution of irrigation water
- Renovation of irrigation systems and better maintenance

3 Policy and legal framework

The State Water Policy of Orissa (2007) addresses participatory irrigation management as follows:

- Sustainability in water resources development and management depends upon the participation of the Water Users in Irrigation Management. Orissa has promulgated the Orissa Pani Panchayat Act, 2002 and Orissa Pani Panchayat Rules, 2003 to provide a legal framework for such participation. The State shall develop a time bound programme for transfer of operation and management of all irrigation projects to the Farmers' Organisations. The State shall however continue to provide necessary support to these institutions by way of their

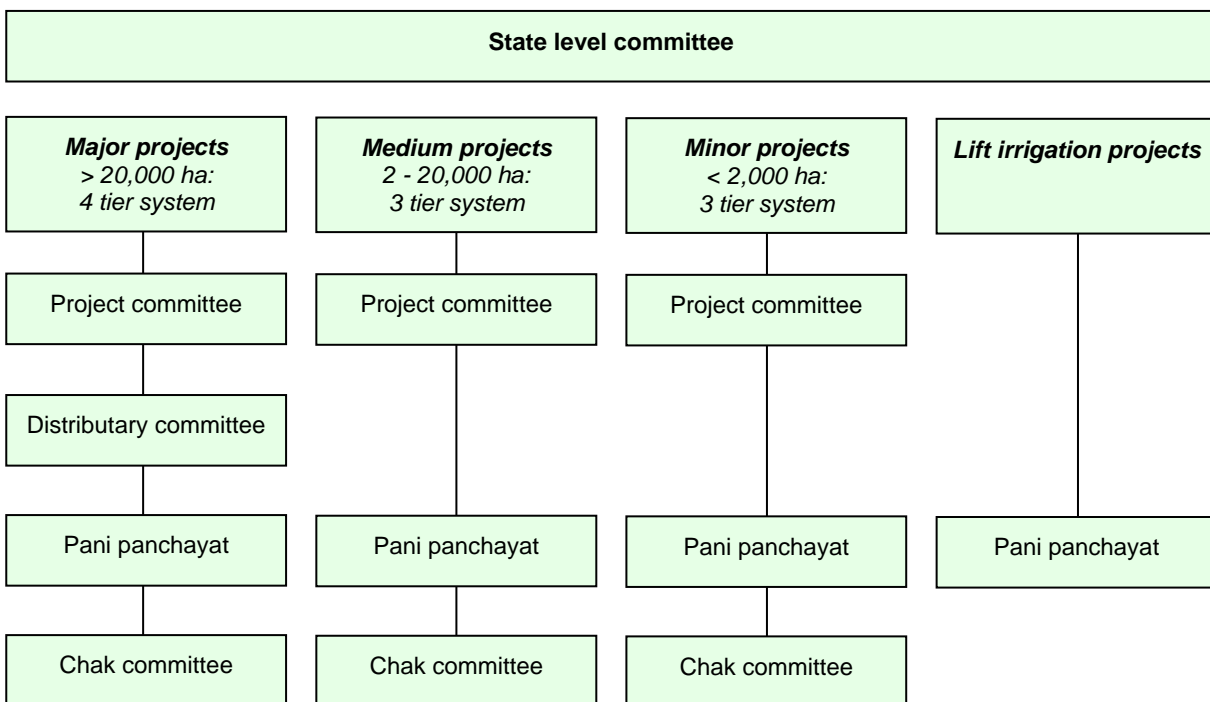
capacity building on a continuous basis and also by financial assistance to them as a proportion of water rate collected. Periodic independent evaluations would be conducted to assess the impact of the Participatory Irrigation Management and suitable measures would be taken on the basis of lessons learnt.

- The Water and Land Management Institution (WALMI) will be strengthened to act as a centre of excellence for PIM activities. Knowledge and experience sharing with similar institutions in the country and abroad would be encouraged.
- In suitable projects, the State will introduce Irrigation Management Transfer (IMT). This will, however be done in tune with the capacity of the Pani Panchayats to shoulder the responsibility of management of the Projects.

4 Organisation

A distinction is made between major, medium/minor and lift irrigation projects, as shown in the figure below.

Figure 1: Pani panchayat organisational structure



Members of the pani panchayat are land owners of the command area. Not all land owners are resident. Somewhere around half of the area (varying from scheme to scheme) is cultivated by sharecroppers.

The project committee serves as the apex body for each irrigation project. The pani panchayats cover blocks of between 300 and 600 ha with a shared distribution infrastructure. The chak committees cover around 40 ha each. There is one pani panchayat for each lift irrigation scheme (which typically covers some 20 ha).

The general body of the pani panchayat meets at least twice per year, once before the kharif season and once before the rabi season. District-Level Advisory Committee (DLAC) meetings are held monthly, with representatives from line agencies and pani panchayats.

The efforts are supported by a quarterly magazine and a monthly newsletter, as well as the www.panipanchayat.orissa.org website.

An annual performance assessment of the pani panchayats was introduced in 2008-09, based on guidelines prepared for the purpose. The evaluation has two components: A self-assessment by the PP itself and an external assessment by the DWR District Office. The assessment allows DWR to give focused attention to PPs in need of strengthening. PPs with a high performance receive incentives and awards.

The Water and Land Management Institution (WALMI) is in charge of capacity-building and is involved in inter-state dialogue and knowledge-sharing.

Figure 2: PP magazine and newsletter



5 Constraints and achievements

Constraints

The following constraints to successful progress have been observed from case to case:

- Basic system deficiency
- Lack of technical knowledge of farmers
- Fear of financial viability
- Lack of leadership
- Lack of publicity & training
- Lack of continuous support at field level

Achievements

The following significant innovations and developments have been achieved from case to case:

- Adoption of short duration paddy (minimizing water use) in the Pitamahal irrigation project
- Increased cultivation intensity: Mono to double cropping in the Pilasalki, Dhanei, Badanalla, and Harabhangi irrigation projects, and double to triple cropping in the Salia, Bhaskel, Baldhia, Dadaraghati, Salandi and Pitamahal irrigation projects
- Increased crop yield and improved soil productivity
- Use of balanced (NPK) fertilizer (general)
- Crop diversification (paddy to non-paddy) in most of the projects, including floriculture in the Ghodahado irrigation project
- Resource mobilization for operation and maintenance (general)
- Empowerment of women: The Aunli irrigation project has an all-female PP, and the Ghodahada irrigation project has a women's self-help group
- Improved water fee revenues - from 0.6 mio INR in 1999/2000 to 30 mio INR in 2007/08
- Awareness and introduction of the SRI method of rice cultivation

6 Conclusion

Orissa has adopted an intermediate path in implementing participatory irrigation management. This is in order to avoid the risks of a too fast implementation (where the farmers' understanding can be inadequate) and a too slow implementation (with every chance of derailment of the programme).

There is no doubt that pani panchayats are an excellent platform for increased agricultural production and for improved economic conditions of the farmers.

References

The Orissa Pani Panchayat Act, 2002. Government of Orissa, Water Resources Department

The Orissa Pani Panchayat Rules, 2003. Government of Orissa, Water Resources Department

The Orissa State Water Policy 2007

Websites

Department of Water Resources, Orissa: www.dowrorissa.gov.in

India Water Portal: www.indiawaterportal.org

Water user groups in Orissa: www.panipanchayat.orissa.org

Appendix A: National pani panchayat implementation

State	No. of PPs	Area covered
Andhra Pradesh	10,800	4,169,000 ha
Arunachal Pradesh	39	9,000 ha
Assam	720	47,000 ha
Bihar	46	148,000 ha
Chhatisgarh	1,324	1,245,000 ha
Goa	57	7,000 ha
Gujurat	576	97,000 ha
Haryana	2,800	200,000 ha
Himachal Pradesh	876	35,000 ha
J&K	1	1,000 ha
Karnataka	2,515	1,295,000 ha
Kerala	4,126	255,000 ha
Madhya Pradesh	1,687	1,692,000 ha
Maharastra	1,539	667,000 ha
Manipur	73	49,000 ha
Meghalaya	123	16,000 ha
Nagaland	23	3,000 ha
Orissa	17,106	1,645,000 ha
Punjab	957	117,000 ha
Rajastan	506	620,000 ha
Tamil Nadu	1,310	788,000 ha
Uttar Pradesh	245	121,000 ha
West Bengal	10,000	37,000 ha
Total	57,449	13,263,000 ha

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