

## **Achievement of UMMB<sup>1</sup> Supplementation Project**

1. The Project has socio-economic impact
  - it has resulted in better utilization of low quality feed resources (by product and crop residues)
  - has generated enhance income for livestock farmers in all participating Member States
  - involves 25,000 animals (cattle, buffalo, yaks and goats) and 6,2000 farmers
  
2. The project has demonstrated successful transfer of technology to end-users
  - at least 4 Member States has established micro-financing schemes for farmer groups in the revolving fund for UMMB manufacture
  - co-operatives have been established

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<sup>1</sup> Urea Molasses Multinuement Block

### 3. Some achievements in some Member States

Country	UMMB produced (Kg/yr.)	No. Farmers using UMB	No. Animals fed UMB	Extra income from milk <sup>2</sup>	Training conducted (man-days)
China	30,000	~250	~2,500	~Yuan 2 per cow/day	Farmers ~ 50 Technical staff 6
Indonesia	120,000	~500	~4,000	~Rupiah 500 per cow/day	Farmers ~ 100 Technical staff 10
Myanmar	45,000	~700	~1,500	~Kyat 50 per cow/day	Farmers ~225 Technical staff 104
Sri Lanka	20,000	~300	~1,000	~Rupees 25 per cow/day (from reduced feeding costs)	Farmers 153 Technical staff 295
Thailand	80,000	>200	>1,600	~Bhat 3-6 per cow/day	Farmers 680
VietNam	900,000	>1,000	>3,500	~Dong 5,000-10,000 per cow/day	Farmers 1,900 Technical staff 48

### 4. The project is sustainable

Continuous training and demonstration is done at farmers level.

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<sup>2</sup> Note-this does not include other benefits from increased growth of young and better reproductive performance of dairy animals, and higher rate of weight gain in beef animals.

## **ISOTOPE APPLICATIONS IN INDUSTRY AND ENVIRONMENT**

### **Gamma Scanning of Industrial Process Columns**

#### **Success Story**

- **Technology well established in RCA region and being used for troubleshooting and process optimisation.**
- **All major petroleum/petrochemical industries are the users of this technology.**
- **Types of columns include, fractionating, separator, extractor, depropaniser, hydrogenation etc. Both tray type and packed bed type.**
- **Various types of sources like Am-241, Ir-192, Cs-137 and Co-60 and associated equipment have been used to carry out these investigations.**
- **A variety of collimators giving planer, directional, and cylindrical beam geometries and made of tungsten and lead have been used.**
- **Use of neutron back-scatter gauge for level/interface monitoring has been established.**