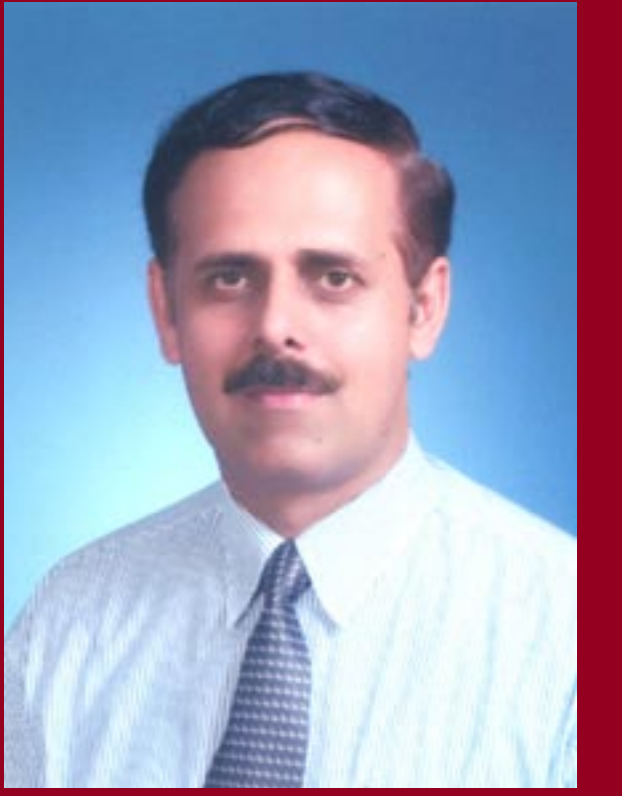


Micronutrient Initiative

SITUATIONAL ANALYSIS OF SALT PRODUCTION AND IODIZATION IN PAKISTAN

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BACKGROUND

Iodine Deficiency Disorders (IDD) is a public health problem in Pakistan affecting almost half the population of whom nearly 6.5 million are severely affected. The national IDD Control Program launched in 1994 had a limited impact as the pace of salt iodization had been quite slow as evidenced by a mere 17% of households using iodized salt (UNICEF) and only 14% of salt being iodized at the production level (MI, 2005). Comprehensive countrywide information on the current situation of the salt industry and on the production, storage, distribution and utilization of iodized salt has been practically non-existent.

AIM

To document the capacity, status and extent of salt iodization and to prepare a complete inventory of salt producing units with a view to support the strengthening and expansion of the salt iodization program in Pakistan.

FRAMEWORK

A literature review of the IDD and Universal Salt Iodization (USI) initiative, an inventory of IDD

intervention strategies by the government departments and NGOs, and situational analysis were undertaken. Meetings and discussions were also held with the provincial and district health managers. A survey of salt processing units was carried out in 133 districts using semi-structured questionnaires.

OUTCOMES

As can be seen in **Figure 1**, the major sources of raw salt are rock mines (89%), the sea (6%) and lakes (5%). Raw salt is transported to 1172 salt mills of which 68% are small units, 28% are medium scale and only 4% are large. Large mills roughly account for 20-25% of the salt produced in Pakistan. Of the current estimated 1.33 million tons of salt produced, 72% is for human use (**Figure 2**). Currently only 6% of the salt units are iodizing salt. An estimated 185,390 tons of salt are iodized annually, which adds up to 14% of the total salt and 20% of the edible salt that is processed in these mills (**Figure 3**). Among the units which are iodizing salt, 57% use drip feed plants, 28% carry out dry mixing and the remaining plants use other methods. At the industry level, monitoring and checking the quality of salt was reported to be very infrequent. On average, only 8% of the technical staff of the salt units had received some formal training. The annual requirement of Potassium Iodate (KIO₃) for iodizing all edible salt in the country is estimated at 47,436 kilograms (**Figure 4**). 62% of the respondents reported that KIO₃ was not easily

available. The price of KIO₃ varied from USD 2.5 (UNICEF subsidized rate) to USD 20 (open market) per kg. The average ex-factory price of common salt was USD 0.033 per kg while the average production cost per kg is USD 0.0308. The average retail price of iodized salt was USD 0.065 per kg (**Figure 5**). 54% of plants use general printed packaging material, 18% use personal and 13% use unlabeled packaging.

IMPLICATIONS

A multitude of factors contribute to a low rate of salt iodization. Lack of training, the low socio-economic status and large number of small scale salt producers, as well as price and interrupted availability of KIO₃ remain as key constraints. The survey findings have proven to be a useful tool to guide current USI efforts in Pakistan. They will also help program managers and policy makers design effective and sustainable programs by addressing some of the key bottlenecks that contribute to ineffective iodization.

ACKNOWLEDGEMENTS

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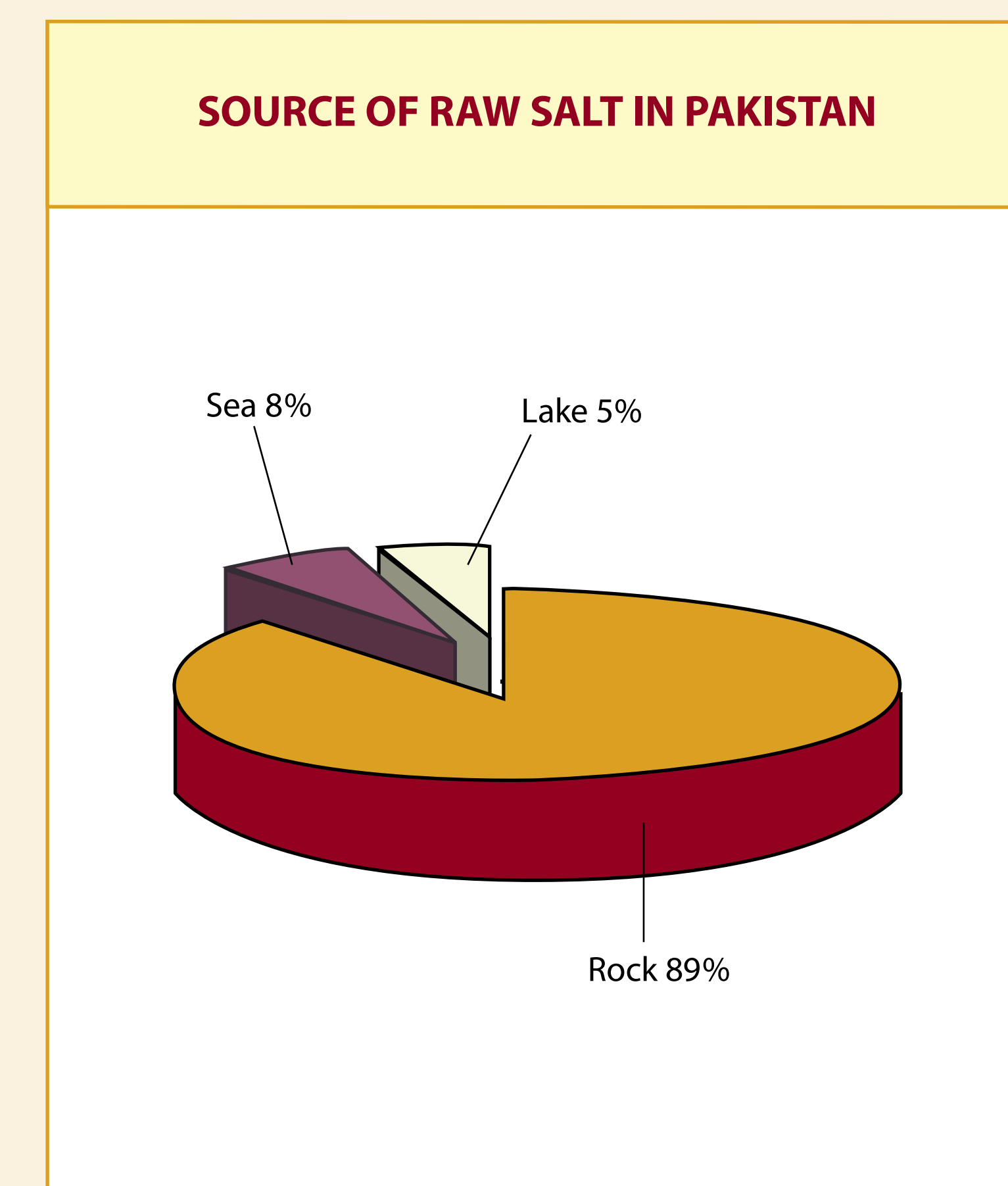


Fig. 1

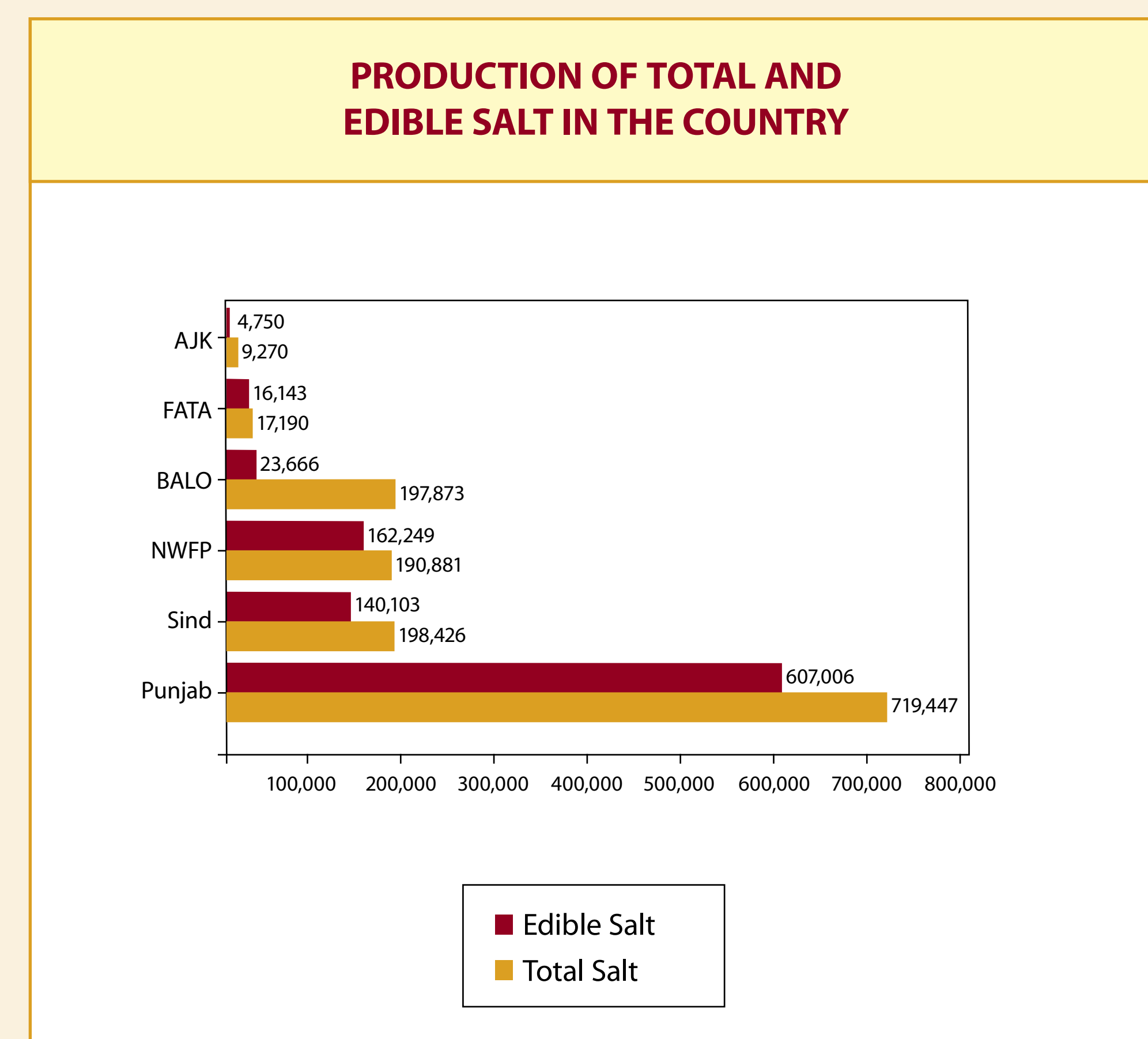


Fig. 2

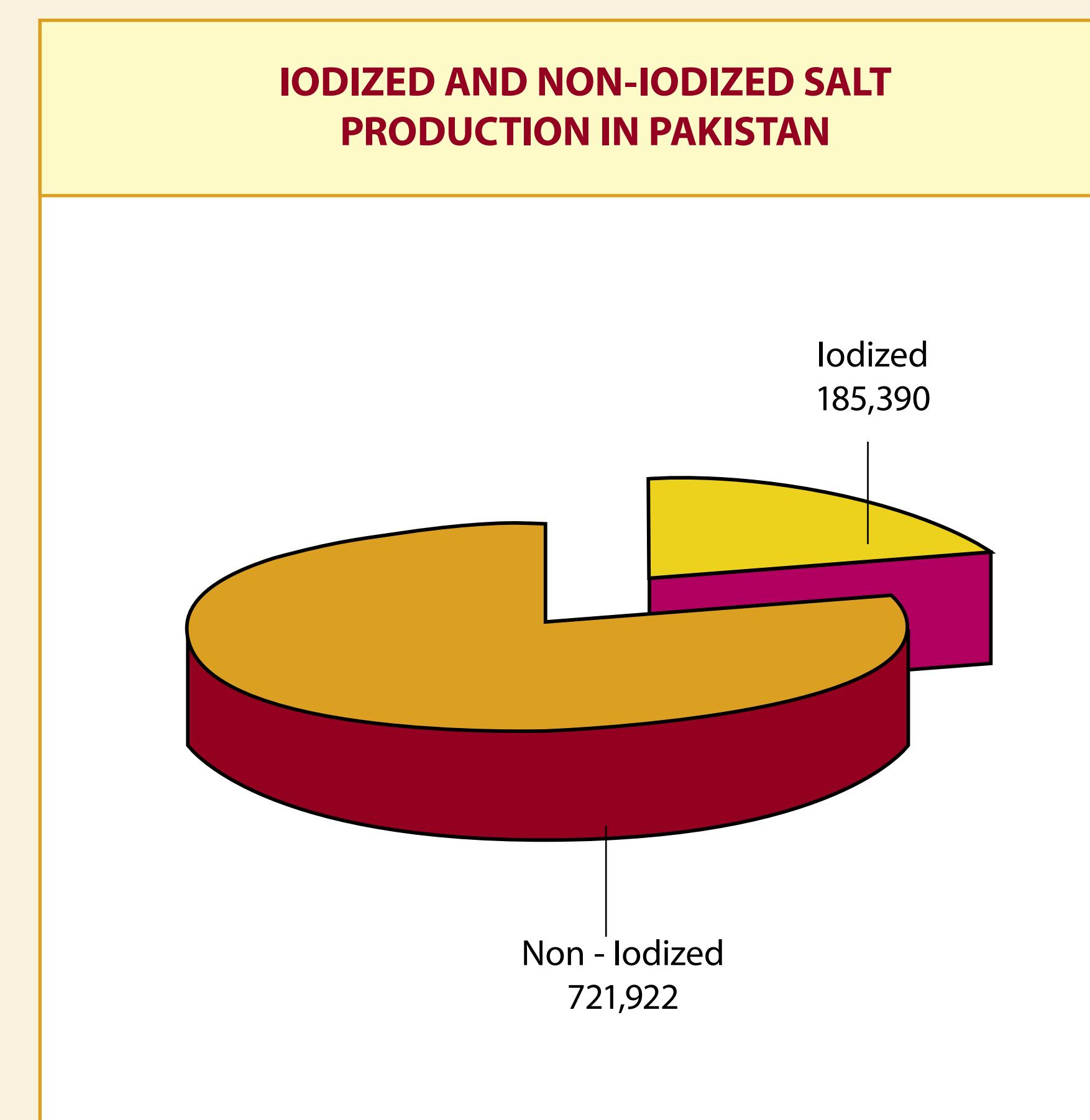


Fig. 3

Region/Province	Requirement of Potassium Iodate in Pakistan (Kg)	
	Per Month	Annual
Punjab	2507	30084
Sindh	584	7008
NWFP	676	8112
Balochistan	99	1188
FATA	67	804
AJK	20	240
Total	3953	47436

Fig. 4

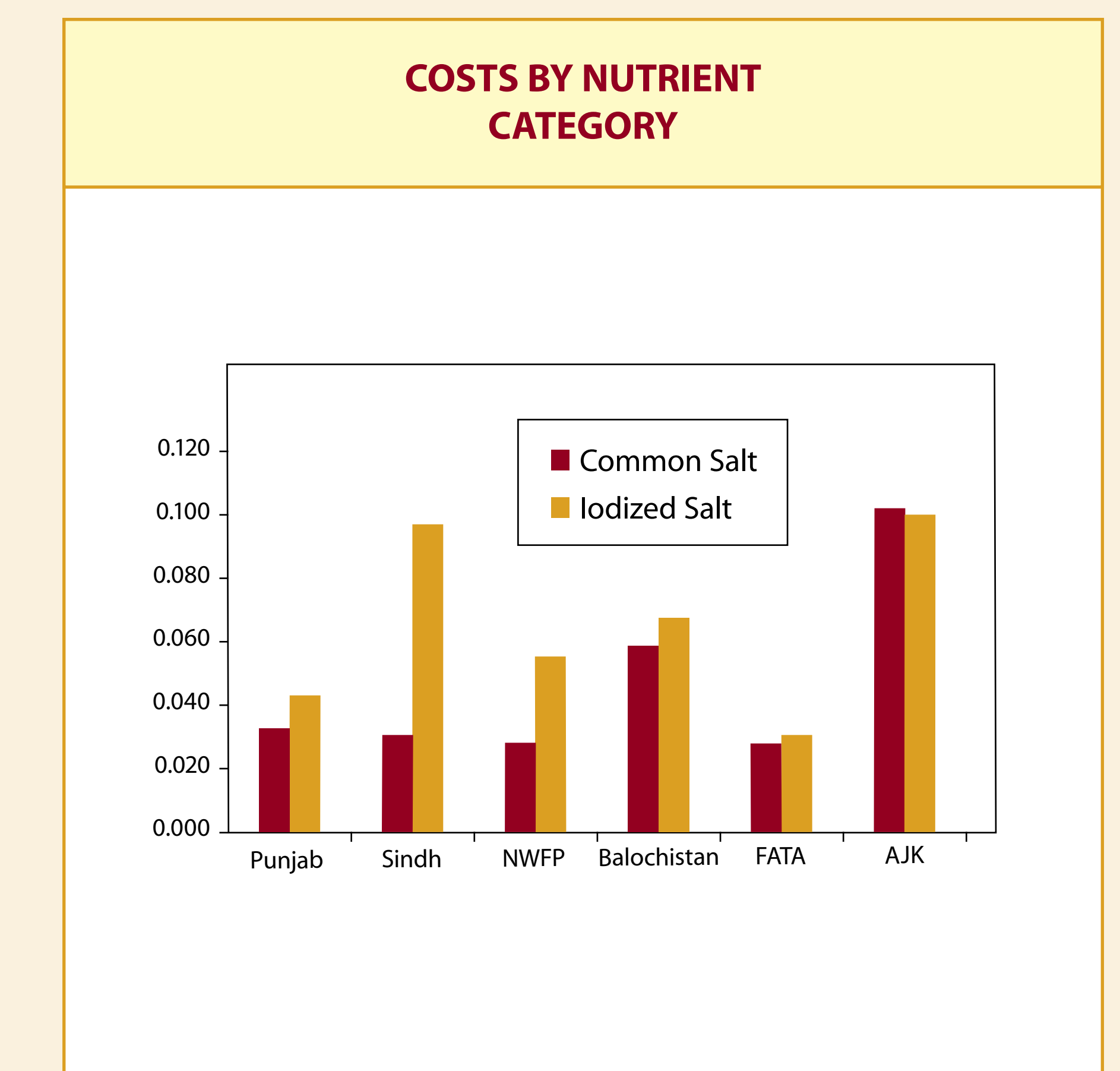


Fig. 5